

THE AUTOMOBILE

WEEKLY

NEW YORK — SATURDAY, MARCH 19, 1904 — CHICAGO



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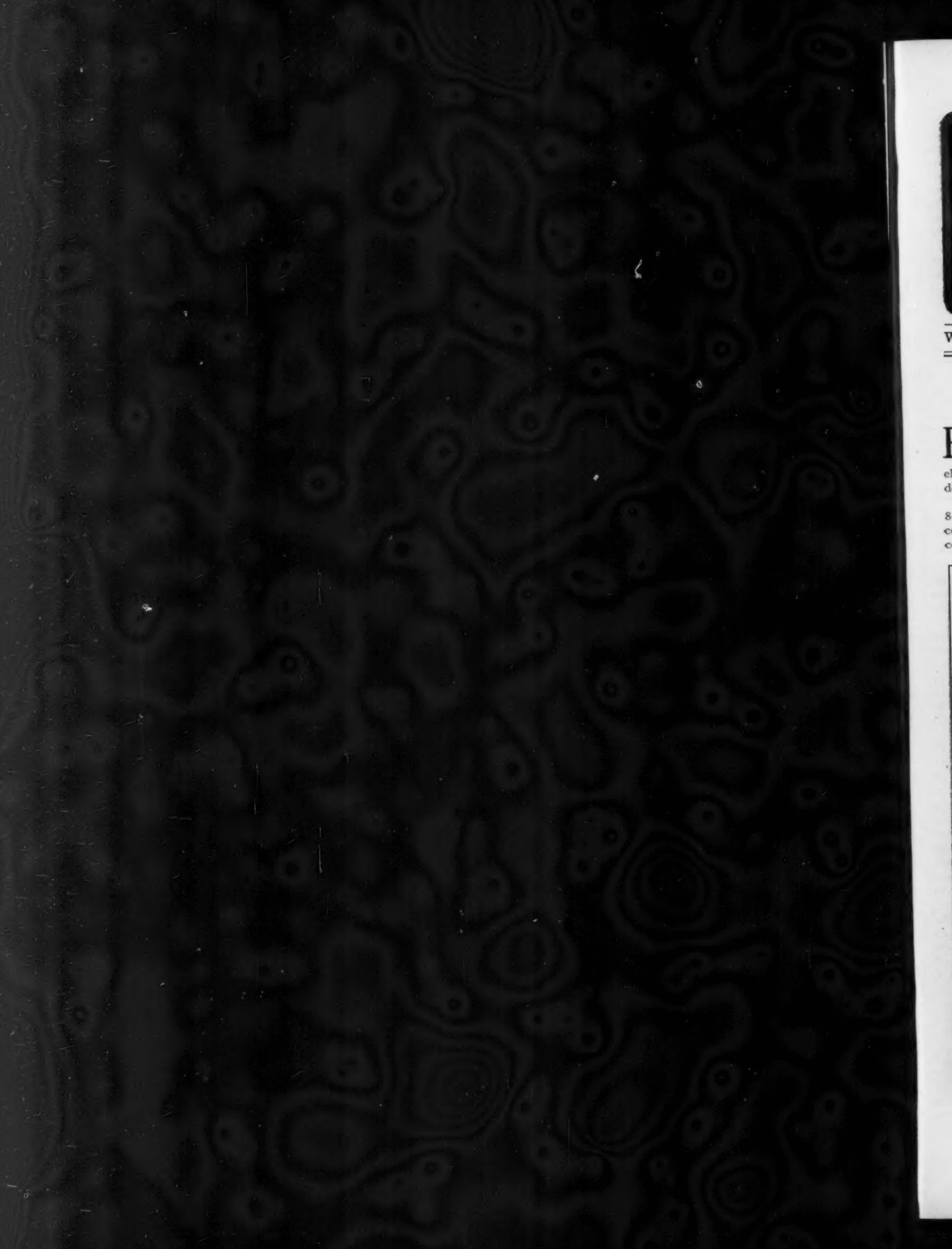
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NEW YORK — SATURDAY, MARCH 19, 1904 — CHICAGO

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FRENCH TRIALS OF ANTI-SKIDDING DEVICES.

Special Correspondence.

PARIS, March 1.—A competition of an entirely new description has recently been held at Versailles, eleven miles from Paris, for anti-skidding devices.

The competition consisted of a run of 800 kilometers by machines fitted with the competing devices, the distance being covered in four successive days, and the

run for each day determined by a commission appointed for the purpose.

It was originally intended to have on the first day two runs of thirty-three kilometers each, one with the devices fitted to the vehicles and one with plain tires, but this plan was abandoned and there were substituted at the last minute short trials on the "Cote de Picardie,"

the steepest hill on the Paris-Versailles course, and one of the longest.

After the four days, on February 28, in the afternoon, (the Sunday law not being in vogue in France), pure skidding competitions were held, to which only such vehicles as had successfully run the 800 kilometers without a breakdown caused by the anti-skidding device or without the



Car No. 3.—Th. Houben Strapped-On Belgian Tire Cover.
Car No. 5.—Durandal I. French Tire Cover.

Car No. 11.—Sainsbury English Anti-Skid Attachment.
Car No. 26.—Parson English Floating Chains.

SOME OF THE ANTI-SKIDDING DEVICES USED IN THE VERSAILLES TRIALS, FEBRUARY 23 TO 28.

replacement of any part of it, were allowed to compete.

For this purpose, several of the hand-somest avenues of Versailles had been transformed into regular mudholes by being profusely sprinkled for a distance sufficient for the trials. The last trials, the most interesting of them all, were as follows:

1st.—On a wet pavement. The competitors having acquired on dry ground a speed of thirty kilometers an hour, as they were passing along a section of the muddy course, one of the officials blew a whistle, at which signal the drivers were required to block their wheels. The distance between the point at which the brakes had been applied and that at which the vehicle stopped, was then measured and the vehicles graded accordingly.

2nd.—Side slip at a muddy turn. A corner having been put in favorable condition to produce as much skidding as

and rubber; (4) iron and leather cemented to the rubber; (5) covers of leather studded with iron and fastened to the wheels with (a) hooks, (b) straps; (6) combination steel and leather tire without rubber.

II.—Devices independent of the tire: (1) attached to the rims, (2) attached to the vehicle.

All kinds of anti-skidders so far produced were represented, there being no less than thirty-four entries, including six motorcycles—Belgian, German, English, and French.

The official results of the trials have not been published at this writing. It was necessary for the commission to remove the devices from the cars in order to examine them in detail to determine the amount of wear and their relative serviceability. From the trials, however, certain general conclusions can be drawn: It appears that although the armored type —*pneu-ferre*—in which the tread of the

the rim, its removal necessitating that of the tire. In the English Parson's device, on car No. 26, chains fastened to the rims float on the tires: this proved satisfactory for anti-skidding purposes but it had the effect of destroying a good deal of the smooth running of the vehicle, was very hard on the tires and somewhat noisy: moreover, it would make the repairing of a punctured tire a most bothersome job. The same may be said of the Houben device, on car No. 3, a Belgian apparatus having many straps.

The most practical and effective of all the devices appeared to be the armored type which takes direct hold of the road bed. It remains to be seen whether or not an entirely satisfactory device will be found among those submitted for trial, but at any rate much valuable information will be obtained when a full account of the contest is forthcoming.

LUCKY NASHVILLE.

Good Weather and Dry Roads Create Demand for New Cars.

Special Correspondence.

NASHVILLE, March 14.—The season here has been unusually warm and dry and the roads for fifty miles around Nashville are in good condition for motoring. This has created an unusually brisk demand for automobiles, but the cars ordered through local dealers have not yet been shipped from the factories. Most of the purchases so far made have been by out-of-town buyers. As soon as the spring supply of new cars is received a large business will be done here. Nashville is destined to become the distributing center for several Southern States.

Plans are being made to hold a two or three days automobile race meeting on the Cumberland Park horse track in May, and those interested in promoting the tournament are trying to induce some of the leading manufacturers to send their racing machines to compete. Events will be so arranged that the affair will be of interest to all owners and it is expected that it will draw large crowds. A number of races will be put on that will be open only to local machines and drivers.

Although two Nashville clubs have been organized in the past, they have both been allowed to become defunct as the members were unable to agree whether they should be social organizations open to only a select few or should be run on broad lines and open to all owners.

Several owners are planning to go to the St. Louis World's Fair in their cars. Duncan Dorris, one of the local dealers, is now at work on road maps and will make a run to St. Louis as soon as the roads settle, to lay out a route. This will be of great advantage in case a number of persons wish to make the run to be at the Fair for "automobile week."



COMPETING CARS IN THE VERSAILLES ANTI-SKID TRIALS, AFTER THE TESTS.

possible, a line was marked with plaster around the corner and the drivers of the automobiles were required to keep this line between the wheels of their machines. The motorcycles were required to follow it exactly. The speeds being the same for all vehicles, the distance between the tracks of the wheels and the plaster line was measured and grades given accordingly.

3rd.—On a winding course consisting of a number of very short turns in the width of a broad avenue, the route to be followed being indicated by a plaster line as before, the general behavior of the cars was noted with respect to side-slip and the certainty with which they could be stopped.

The apparatus was classified as follows:

I.—Devices attached to the tires: (1) iron or steel apparatus fastened loosely to the tires, (2) iron or steel apparatus secured to the tires, (a) rivets, (b) blades; (3) combination devices of iron, leather

tire is made thicker than usual and fitted with narrow steel plates, somewhat like the scales of a fish, does not appear to be as satisfactory with respect to skidding itself as some of the other devices, it is very reliable and causes no more drag than the ordinary tire on smooth roads, the loss of power being approximately 7 per cent. on rough roads. This system also has the advantage of being puncture-proof and of saving considerable expense in tire repairs on account of its wonderful wearing qualities.

Photographs of several of the devices accompany this. The one fitted to car No. 11, the Sainsbury anti-skidder, which is independent of the tire, as the photograph shows, proved most satisfactory for side-slip, but is very destructive of the road surface. A neat device is that on car No. 5, the Durandal I, as may be noted. In this device, the special anti-skidding tread is held between the clincher tire and

Virginia Beach Inspection Trip.

Delegation of Motorists and Press Representatives from New York Find Norfolk Coast Sand Unsuitable for First Class Racing.

Staff Correspondence.

NORFOLK, Va., March 14—Whether it was because the inspection trip started on Friday and first drove over the course on the thirteenth of March, it is certain that Virginia Beach was not in its best dress when inspected by the party of twenty-one New York automobilists last Sunday. The candidate for recognition as an automobile race course was not in presentable form for motor cars, much to the disappointment of those who have been hoping to find a suitable speeding ground convenient to New York. In its present condition it is impracticable for automobile

porters and photographers to the number of twenty-one left New York on Friday for a trip that was expected to supply a convenient course where the elimination trials and other speed contests could be held. A day on the beach in automobiles proved it to be unfit—for the present at least—for such competition.

Harlan W. Whipple's car was caught in a soft spot close to the water's edge and quickly sank to the hubs. Two cars fortunately happened to come along at the time and with seven men pulling on a rope, three pushing from the rear and the motor

space, that the red sand was not naturally cohesive, that it was soft in spots which were liable to drag down a heavy car, that it was dotted with sunken wreckage, and clay ledges and that there were few spots where a machine could stand for any length of time without the wheels sinking, was reluctantly admitted by every member of the searching party.

On the other hand, the local people and members of the Virginia Beach Automobile Club declare the beach to be at its worst now, whereas in a month it will be much improved.

"The gentlemen who have favored the beach with an inspection find it at its worst," said Alfred N. Chandler, of Philadelphia, president of the Virginia Beach Automobile Club. "At present it might answer for touring, but would not do for racing. Nevertheless, conditions have been such that the course could not be otherwise.

"In the first place," explained Mr.



A HARD STRETCH OF SAND ON VIRGINIA BEACH NEAR NORFOLK, SHOWING SURF OF ATLANTIC OCEAN.

racing, although it is said to be much better during April and May. However, the international cup race elimination trials on or about April 15, will not be held on the Virginia stretch of sand which proved upon inspection to be too soft in spots for fast driving, and the original selection of the Ormond-Daytona Beach in Florida for the tests will probably stand. This does not mean a total condemnation of the beach, which may be inspected again next month with a view of holding an open tournament in May.

As guests of the Virginia Beach Automobile Club, represented by Lee Straus, A. A. A. officials, operators, racing men, re-

doing its best the machine was finally extricated.

"At present the narrow beach, with its soft spots of quicksand and bad approaches make it impracticable for automobile racing, and I am sure the Automobile Club's race committee will not hold the international cup race trials here. We were anxious to find the course in good condition, and I am very much disappointed," said Secretary Butler of the Automobile Club of America. "What its condition may be next month or the month after can only be ascertained by a trial at that time."

That the eighty mile stretch of beach supplied less than sixty feet of driving

Chandler, "we have had an extraordinary winter. The thaws are beginning and the seepage from the surrounding country makes for the sea. The northeast wind which has prevailed brings the ocean tide up high and prevents this seepage from going into the sea. It therefore comes up through the beach and makes the soft spots you have found. In addition, the wind of the past few days has brought the tide so high that the width of hard beach has been lessened considerably. Moreover, the first five miles of the course are not comparable with the finer stretch of eighty miles to be found further South, toward Oregon Inlet.



HELPING LaROCHE'S DARRACQ RACER ACROSS STRIP OF DRY SAND TO BOARDWALK.

"Under ordinary conditions I know the course is ideal for racing. With the prevailing wind from the northwest and the frost out of the ground there would be no soft spots and a much wider and harder beach. Although quicksand is found here and there on the course, it is only in small quantities and not dangerous. Mr. Breese went down the beach 45 miles in about 50 minutes and was caught in soft sand on his return because he drove too near the water's edge."

At an impromptu meeting held Sunday afternoon statements similar to the foregoing were made by James S. Groves, proprietor of the Princess Anne Hotel; R. C. Byrd, manager of the Virginia Beach Improvement Company; W. Easby Smith, superintendent of the government telephone and telegraph lines along the coast from Cape Henry to Cape Hatteras; C. B. Ryan, general passenger agent of the Seaboard Air Line; George A. Frick, of Norfolk, and H. H. Trice, of the Virginia East Coast Automobile Association. The latter is now coöperating with the newly-formed Virginia Beach Automobile Club.

Virginia Beach's first claim for recognition as a speeding course was made during the New York automobile show. It is ninety miles long, running from Cape

Henry in Virginia to Oregon Inlet in North Carolina. Following the Florida tournament, Lee Straus, of New York, a former



HARLAN WHIPPLE'S MERCEDES IMPERILED BY QUICKSAND AND FLOOD TIDE.

resident of Virginia, visited the course and formed the Virginia East Coast Automobile Association in order to promote

a tournament during May. The local people wanted to have a trial tournament at first, whereas Mr. Straus desired a national affair. Last month he formed the Virginia Beach Automobile Club, with Alfred N. Chandler, of Philadelphia, as president.

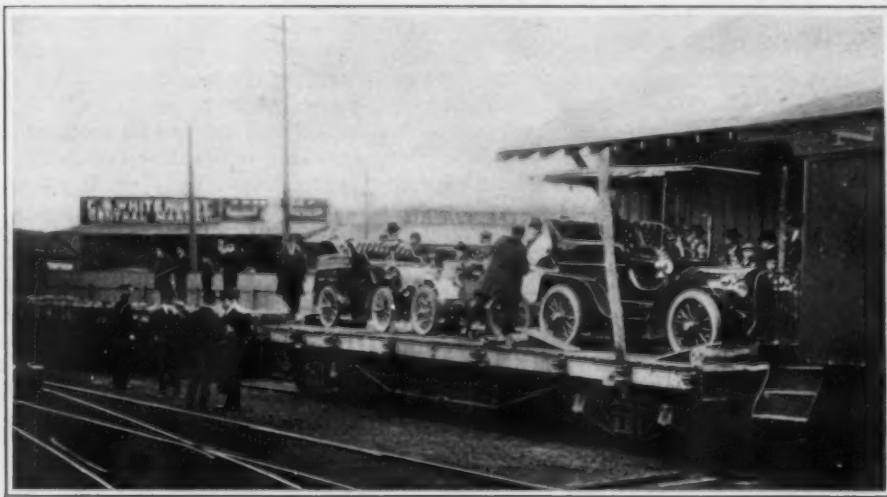
By invitation of this club, of which Mr. Straus is secretary and treasurer, the following officials and pressmen, excepting Augustus Post, left New York last Friday on the Old Dominion Line steamship *Munroe* to inspect the course: Lee Straus, secretary-treasurer Virginia Beach Automobile Club; Harlan W. Whipple, president American Automobile Association; Samuel M. Butler, secretary Automobile Club of America; C. H. Gillette, secretary American Automobile Association; J. P. Holland, J. C. Wetmore, F. Ed. Spooner, Chas. S. Wells, Frank N. Nutt, F. A. LaRoche, Augustus Post, A. G.

Batchelder, Arthur N. Jervis, J. M. Davis, M. J. Seymour, Joseph Tracy, E. T. Birdsall, E. P. Greuner, Louis R. Smith, and Alfred Reeves.

A. R. Pardington, chairman of the A. A. A. racing board, could not leave New York owing to business obligations. Mr. Post went to Norfolk by train, arriving there on Friday.

Upon arriving at Norfolk the visitors were entertained at the Monticello Hotel and left on the Norfolk and Southern R. R. for Virginia Beach, which is eighteen miles east of here.

Six cars were available for use on the beach. Harlan W. Whipple furnished his 24-horsepower Mercedes, F. A. LaRoche drove his 40-horsepower Darracq, August Post handled his White touring car. The Brooklyn Automobile Company had furnished a Haynes-Apperson, which was piloted by Frank N. Nutt, while M. J. Seymour drove a car sent to the beach by Alexander Fischer, importer of the Martini;



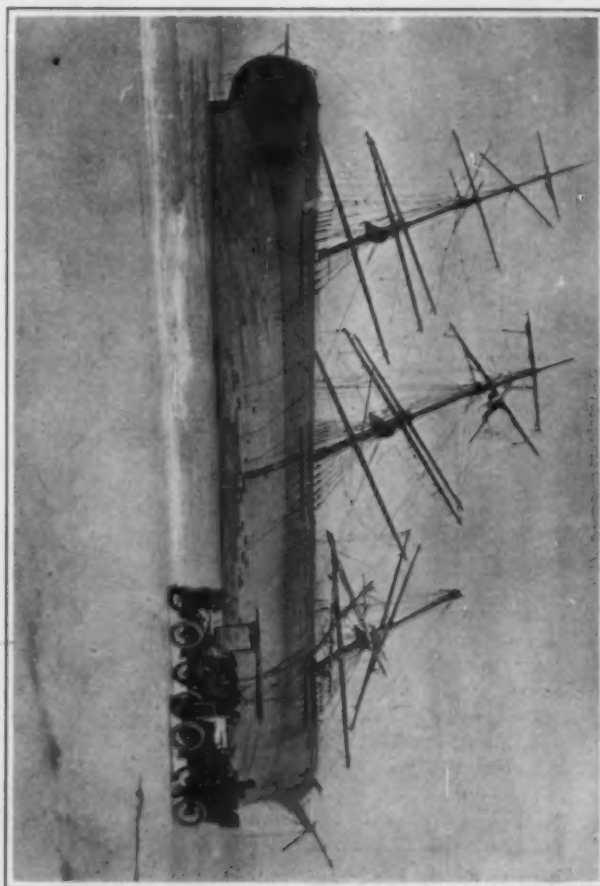
UNLOADING INSPECTION PARTY'S CARS AT NORFOLK AFTER RUN FROM NEW YORK.



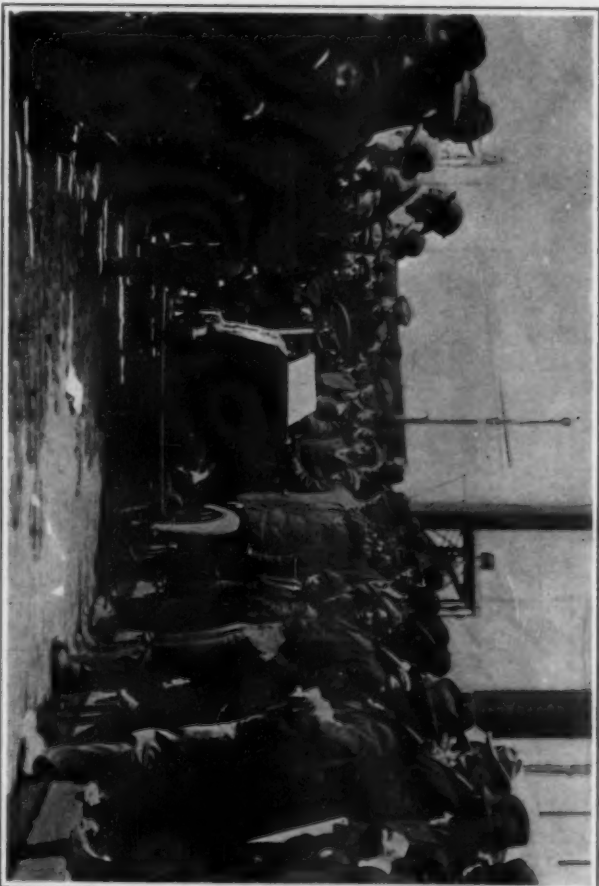
EFFECT OF FIRST SIGHT OF A RACING AUTOMOBILE ON A SOUTHERN HORSE.



NEW YORK INSPECTION PARTY EN ROUTE ON OLD DOMINION LINER "MONROE."



SHIP "HENRY B. HYDE," OF SAN FRANCISCO, WRECKED IN A FEBRUARY STORM.



LABOCHE GIVES CITIZENS OF NORFOLK THEIR FIRST VIEW OF A RACING CAR.

Cary Weston, of Norfolk, had a Cadillac at the course.

The beach extends for ninety miles south from Cape Henry in Virginia to Oregon Inlet in North Carolina. Composed of coarse brown sand, it does not pack as hard as the fine white sand at Ormond Beach. Nevertheless, the constant rolling of the ocean packs about sixty feet of it at some places very smooth and hard and at others rolling and soft. The beach slope is hardly noticeable at some points, while at others it makes steering difficult. Here and there are spots of red sand, known locally as a "pimple," which is soft and incapable of holding an automobile of any kind. Only certain parts of the six miles traveled on Sunday were firm enough to support a car without the wheels sinking.

To reach the beach, it was necessary to go down a steep board incline and then through forty feet of loose sand. The return trip through this required the help of many hands on ropes and in the rear of the cars.

Although there are some good points about Virginia Beach, it is freely admitted that it does not compare with the Ormond-Daytona course in Florida.

Excepting the life-saving stations every five miles, the beach, generally speaking, is devoid of houses. Here and there are remains of wrecks, some imbedded planks being exposed and dangerous. Clay ledges, too, are found, so that constant vigilance is necessary on the part of the driver. At Dam Neck station about two hundred feet from shore, lies the clipper ship *Henry B. Hyde*, of San Francisco, wrecked during a storm last month. Just before reaching this point, there is a mile stretch that is hard, level and well-suited for speeding.

Augustus Post, with his White steamer, was the first to go down the beach and was followed by the party in Harlan W. Whipple's car, which took the lead when the Post car stopped at the wreck. A mile farther south the big Mercedes, while going over a steep stretch of red sand started to slide oceanward and stopped only when the left rear wheel had gone in up to the hub. Messrs. Whipple, Arthur N. Jervis, N. Lazarnick and Charles Donahue, the chauffeur, jumped from the machine, which was fast going down in what was thought to be quicksand, and when the White car arrived, followed by Seymour's machine, a dozen men started to extricate the heavy Mercedes.

From the friendly driver of a passing horse-drawn buggy, a rope was borrowed and fastened to the car, while the shovel carried on Mr. Post's car, was used to dig the sand from in front of the wheels. With the motor doing its best, men pulling on the rope and others pushing at the rear, the machine was finally extricated and driven to a hard part of the beach.

A hasty consultation, the investigation was deemed concluded and the visitors returned to the Princess Anne Hotel. Subsequently, F. A. LaRoche speeded his racer to within a mile of the unlucky spot, and the Haynes-Apperson whirled off the best part of the course. About 1,000 visitors from Norfolk came to the beach for the trials.

In the afternoon it was the consensus of opinion that in its present condition the

beach is unfit for automobile racing. Invitations to visit the beach next month were cordially extended by the local automobilists and, although nothing definite has been decided, it is not unlikely that another trip will be made with a hope of finding the course in condition. Even though the beach beyond the accident is ideal, it is almost useless until the cars can safely pass over the six miles that separate it from the Princess Anne Hotel.

Desirable Improvements on Motor Bicycles.*

By MERVYN O'GORMAN.

(Continued from page 303.)

VIBRATION.—Just as dust is the greatest enemy of the automobile, so is vibration to the motorcycle. Resilient frames are among the most alluring and yet discouraging problems. The methods, pneumatic and other, tried heretofore are not the only possible ones. The cyclist takes vibration at three parts of his person—his hands, his feet, and his seat. Hence we may either:

(1) Have a rigid vehicle and separately insulate each part of him.

(2) Seat him on a flexible frame, with spring handle and handlebars, but neglect his feet.

(3) Mount him hands, feet, and seat, on an upper carriage, separately hung, and insulated by springs from the road carriage.

The existing spring frame, as now used, provided with a compressible top bar, though excellent for push bicycles, has a drawback in that when the wheelbase spreads, the handlebars close up toward the saddle and give an objectionable lateral joggle, which might be found undesirable with the speedy succession of shocks to which a motorcyclist is subjected on the road.

I cannot pretend that I have studied the details of the device, but whether a pneumatic or other suspension be employed I would point out that an inefficient spring (or one that does not bounce) is essential to the success of any such device, and that a coil spring is one of the worst, and a leaf spring one of the best for the purpose. Air might well be used in a dashpot, as in the pneumatic anti-slam of shop doors. Another plan might be to use a pneumatic cushion on which the sides of the containing vessel were of metal, and to employ, instead of air, a vapor which liquefies at, say, 100 pounds pressure; it might be possible through the liquid to quickly lose the heat of compression. Wire-drawing the air through fine holes is, of course, the more usual plan.

Balanced engine.—Somehow very few bicycle makers are attending to the question of the balanced engine. I would commend them, one and all, to study the fly-

wheels of the Lanchester air-cooled engine, and I would congratulate the first man to secure the rights to manufacture this engine under license for bicycles.

Pedals.—The fight between pedals and no pedals is likely to be a long one, because everyone has a right to an opinion on a question which concerns solely his own comfort. It is certain that pedals are necessary on a bicycle assisted by a small engine, and that they can be discarded on a regular two-wheeled motorcar. The world is large enough for both systems, just as some people like hunting and others fishing. The pedal machine, however, suffers under one serious disability, and that is the stiff-legged appearance of the rider who keeps one pedal up and one down as is usual. One remedy for this which ought to be tried, despite the old-time prejudice of our pedal-propelled days, is the *up-and-down treadle gear*. This arrangement is probably not as efficient as the chain, but the inefficiency which condemned the device formerly is not now the prime consideration (for the man-driven part of the mechanism), though this is a fact which it is difficult for a community of bicyclists to admit. We have admitted it in the case of the spring saddle pillar and the unrigid frame, both of which are fatiguing in one case and restful in the other. In fact, when the motorcyclist has to pedal at distant intervals the small inefficiency is probably fully outweighed by his extra freshness, owing to his extra comfort and absence of vibration during the rest of the journey.

Wheelbase.—It would be interesting to know why, in the case of motor-bicycles, an extra long wheelbase is so much appreciated. Is this the car copying craze? I am by no means clear that this is an advantage, though I have no evidence to the contrary. Diminished side-slip is alleged, but it is very difficult to prove it; besides, people grumble more about it than they did in the days of the 1-4 hp. Minerva, though the pace then on grease was the same as now. One man's experience, unless he be perpetually on the road, is scarcely likely to be varied enough, but a consensus of experience of opinion is valuable, and I should like to know

*From a paper read before the Automobile Club of Great Britain and Ireland.



PUSHING A CAR OVER KELP-COVERED SAND TO BOARDWALK AND STREET.

whether, with small powers, we had not better keep the wheelbase normal.

Ignition.—Electric ignition has not yet been displaced, but if we are to use that inefficient mechanism, an induction coil, we should at least derive from it the essential advantage which it is calculated to afford, namely, excessively accurate timing. A variation of the time of sparking, unknown to the rider, of a minute fraction of a second, will easily make a difference of 5 or 10 per cent. in the output of an engine, *i.e.*, quite as much as the difference between chain and belt drive, and a very large number of machines lose in this way by the absurd minuteness and cheapness of the rocker gear. The system which can yield the utmost accuracy, namely, mechanical make-and-break, is the one which with skill should give the best results. I am sorry to hear that some of us are convinced that the purchasing public cannot be educated up to this device, and that they cannot be expected to avoid short-circuits and waste of current, if they do not hear a buzzing noise to warn them. The superiority of the single spark is that the instant of break can be determined with mechanical precision, so as to be practically independent of the backlash of gear-wheels, of vibration and jolting of the engine, of the voltage of the accumulator, and independent of the previous actuation of the spring. With the trembler coil, however, the moment of making contact is by no means so clearly determined. It is a secondary effect after a brush has rubbed upon a surface which it approaches along a more or less conducting slope. If the accumulator is not full, the attractive force of the iron core of the coil rapidly diminishes (with the 25 per cent. fall of voltage), and the response of the attracted armature is correspondingly less rapid. If the first spark fails to ignite the charge under compression, a later spark will do so when the piston has moved forward, so that the driver is not warned by a misfire that his

ignition timing is wrong and his gear faulty.

Furthermore, the rapidity of movement of the little armature may be affected by



HARLAN W. WHIPPLE, PRESIDENT A. A. A.

the vibrations of the spring due to the previous contact and to the jolting of the cycle. On one occasion the spring will be

starting a movement forward when the impressed current occurs, and therefore a spark will rapidly occur. On another occasion the armature will have started an oscillation backward, which must be neutralized before the impressed current can produce its normal effect, and therefore the spark occurs less early. These defects have only been partly remedied by the invention of the so-called high-speed trembler, which is an excessively light device and is likely to be delicate. The only drawback of the single spark type of ignition is the very heavy pressures to which, by a slight wrong adjustment, the platinum tips are liable to be subjected by the mechanical "make," and the accidental fouling of the platinum with oil. Unfortunately, no satisfactory rubbing contact has been evolved to replace the pressure device so much in vogue.

One of my assistants, Mr. Gregory, has a device for displacing electric, catalytic, and lamp ignition. The plan wants working out, but it is similar to a recently published patent of the De Dion-Bouton Company. If an explosive charge be compressed excessively it will ignite. If, therefore, on a half-speed shaft we mount an ignition cam, which, instead of making an electrical contact, forces a minute piston up very fast and very far into a minute cylinder whose suction stroke occurs at the same time as that of the main engine, it is possible to get the auxiliary cylinder to ignite, although it communicates or leaks by a small hole into the main engine cylinder. This leakage of flame would ignite the main charge, and allow of timing on the same lines as the timing on the Simms-Bosch ignition.

Cleanliness.—I think that motorcyclists will derive some benefit from periodically blackleading the radiating ribs of their engine. It will be found that caked mud when dry easily drops off when this has been done, and that dust does not settle thickly; furthermore, no loss of radiating efficiency need be feared. A much desired improvement in the direction of cleanliness is the Werner Co.'s plan of placing the deli-



NORFOLK NEGRO BOYS SHOW CURIOSITY REGARDING MOTOR CAR MECHANISM.

cate mechanism of their carbureter entirely inside the tank casing. This will have the additional advantage of keeping the carbureter warm. Another little step toward cleanliness is to

Lubricate the engine bearings with stiff grease, and so keep the oil in the crankcase.

Lamp.—If I were giving a catalog of desirable improvements as a reminder to inventors I would mention that a minute and powerful lamp which does not come off like a mere smile is badly wanted.

Numbering.—I have been told of a device which I must warn you strongly against, but I mention it because it is ingenious (though reprehensible). We all agree that a man who drives furiously should be punished, but we all know that speed (20 m.p.h.) as such does not fairly constitute furious driving. Mr. Baillie's suggestion is that the new number plates shall be fixed not on a rigid support, but on a support to which the moment the vehicle exceeds a speed of 20 m.p.h. is given a rapid oscillatory motion, with an amplitude of half an inch (the distance between the figures). The object of this is, of course, to shake the dust off the number plate, so that it may be the more clean and legible. All that is required is a fairly stiff spring support of some length, and mounted on a rotating part of a fly-bob, which will joggle the spring when the desired speed has been reached.

A simpler method of obtaining a very similar unlawful result is to support the number plate centrally on a quick threaded screw, which, by giving a pull to a Bowden lever, will turn the plate upside down.

(Concluded).

CROSSED LAKE ST. CLAIR.

Special Correspondence.

DETROIT, March 14.—Russell A. Alger, Jr., the well-known motorist of Detroit and son of Senator Alger, last week gained the distinction of being the only man to cross the ice of Lake St. Clair in an automobile. The feat was accomplished before the thaw set in and was done on a wager made at the Yondotega Club.

Mr. Alger was accompanied by Mrs. Alger, an enthusiastic automobile woman. They rode in Mr. Alger's Packard touring car from Detroit to Bingham's Lakeside Inn and the start was made from that point.

At this resort an iceboat was secured, with Peter Vanderbush, a famous guide in that section, to sail it. The iceboat was sent on ahead to watch for air holes and Mr. Alger and his wife started in its wake amid the cheers of a hundred iceboat enthusiasts on the lake. The trip was not considered dangerous, as the ice was then frozen twenty-six inches in depth clear across the lake. The car had to be driven at good speed to keep pace with the iceboat, and the nine miles across the lake to the Old Club was made in good time. On the way back Mr. Alger covered the distance in twenty-two minutes.

Boston Twin Shows Opened.

Leading Exhibits and Novelties in Automobiles and Launches Seen in Symphony and Horticultural Halls.

Special Correspondence.

BOSTON, March 14.—Two great halls thronged with slowly-moving masses of people, scores of handsome touring cars and light runabouts of latest pattern and finish, ten or twelve motor boats of a kind to show Bostonians what are the aquatic novelties this season, and an array of interesting accessory exhibits tell the story of the first night of the second annual show of the Boston Automobile Dealers' Association.

Symphony Hall, where the main display of automobile touring cars was made, was handsomely carpeted with the same material used when the Ancient and Honorable Artillery Company of Boston entertained the London company last fall; but otherwise, except for the signs, the hall was without decorations. Its own beautiful interior was setting enough for the automobiles. More cars were crowded into the spaces than could be shown to advantage; but except for that the display was above adverse criticism. It was representative as a local show and there were a number of foreign cars on exhibition.

NOVELTIES IN HORTICULTURAL HALL.

In Horticultural Hall the decorations were much more pretentious, for bunting was used in graceful festoons through the main exhibition room, while a smaller hall adjoining, but on a slightly higher level, afforded a rather novel arrangement for the mass of exhibits and gave an unusual and interesting vista to any visitor who might pause to note the picturesque effect. This was the "show" hall of the two. It held the prime novelties of the exhibition, too, for here were the motor boats, and here in a small apartment opening from the larger hall was the first collection of Napier cars ever shown on this side of the water. Charles J. Glidden, the Bostonian who has toured all over Europe, 12,000 miles or more in the aggregate, in one of these vehicles, was an interested promoter of the success of the exhibit. The group was notable, too, because of the presence of the car with Pullman body—one of the luxurious limousines with revolving chairs, leather upholstery, speaking tubes, electric lights, card cases and writing tablets, folding tables for lunch or games, in the glass-enclosed body, and all the Napier improvements in mechanism.

INTERESTING ACCESSORIES.

The special robes for automobile use shown by L. C. Chase & Co., the rubber dealers, and the lay figure sitting, life-like, in a big touring car and dressed in some of the latest creations in automobile clothing sold by the Jordan-Marsh Company, were

unusual exhibits for an auto show; and a novelty of the more mechanical sort was the Climax igniter, a clever device shown by the Climax Igniter Company, of Amesbury, Mass., intended to do away with induction coil, spark coil, spark plug and high tension wires and effect a saving in current consumption.

Fire extinguishers formed a feature of the accessories exhibits. Those shown by the Angier company and the "Nevermyss" company were of the tube pattern, filled with dry chemicals, which can be carried in an out-of-the-way place on any car, ready for instant use in putting out a gasoline blaze. One of them will be demonstrated in a lot outside the building sometime during the show.

THE AUTO BOAT SECTION.

In the boat section, Smith & Mabley, of New York, show the *Vingt-et-Un*, specially dressed for the occasion. It attracted attention as much for the wide notice given to its appearance in Boston as because it was shown exactly as it appeared in the New York Sportsman's Show. Mr. Mabley himself was present the opening night and stayed over until Tuesday. The firm had two handsome motor cars on exhibition, one a Renault and the other the beautifully finished red and polished aluminum Simplex. When he saw the size of the show and the popular interest displayed on Saturday, he thought it worth while to telegraph to New York for a Panhard, and that car was due to arrive Tuesday night.

The Toppan dories and Truscott launches, form an interesting display; but of the local boats the most interesting is the H. H. Buffum Company's speed launch which makes its debut at this show. The boat carries the same engine as the Buffum car, made at Abington, Mass., but the craft has novel lines. The stern is very low in the water, and square, with practically no taper.

A new foreign car shown is the Waddington, exhibited by the Locke Regulator Company, which imports it to this country. The 12-horsepower touring car is shown. The Grout people have a trio of steam cars in a corner of Horticultural Hall, showing the runabout, the tonneau and a chassis.

LEADING EXHIBITS IN SYMPHONY HALL.

One of the most striking exhibits in Symphony Hall is that of Kenneth A. Skinner, who divides the great platform with the Pope Manufacturing Company. Mr. Skinner's white and gold DeDions of the Populaire type made a hit; and in the new cars that have been added to his line,

Mr. Skinner shows a large Boyer touring car, with four-cylinder engine, folding top, glass front. Mr. Skinner will use both makes of cars in his extensive renting business this season, a branch in which he stands at the head in this city.

Another French car that made a good impression at this show was the Decauville, shown by the Lewis & Matthews Company for the first time. Ralph Lewis is in charge of the exhibit, which includes a chassis, a car with a King of the Belgians body, and two big touring cars.

SOME NEW RUNABOUTS.

The American Populaire is a new car put

the 16-20 and 24-30-horsepower machines.

The only three-cylinder car in the show was the Thomas, of which C. S. Henshaw, one of the original automobile men of Boston, shows a full line.

From the indications of the first night, the committee in charge of the show, Harry Fosdick, W. E. Eldridge and George H. Lowe, feel satisfied with the result of their hard work in the interests of the association. Manager Campbell estimates a considerably larger attendance than last year, not only on account of the double show, but because of the greater publicity given this year's exhibition.

ing of those interested in forming a Massachusetts branch of the American Motor League.

Friday evening:—Smoker given by the Boston Automobile Dealers' Association; and dinner of the Wachusett Automobile Club of Fitchburg at the Parker House.

BUSINESS AUTOS IN THE SOUTH.

Special Correspondence.

NASHVILLE, March 14.—The Cumberland Telegraph and Telephone Co., which practically controls the telephone business in this section of the South, is experimenting with automobiles for conveying its



HORTICULTURAL HALL, BOSTON, WHERE AUTO BOAT AND OVERFLOW AUTOMOBILE SHOW WAS HELD.*

out by the American Automobile and Power Company of Lawrence, Mass., for which Chester I. Campbell, manager of the show, is the sales manager. This car is of the gasoline runabout type, fitted with a 12-horsepower Mosher engine, is new in all its details and a pleasing car. The Cameron car, another of the light combination touring type shown this year in Boston for the first time, is exhibited by A. J. Coburn.

Hollander & Tangeman brought part of the New York show exhibit to the Boston show, and their F. I. A. T. cars attracted notice not only inside the building, but among the many demonstration cars plying to and from the building. They showed

MEETINGS OF THE WEEK.

There will be several special meetings during the week, the principal ones being as follows:

Tuesday forenoon:—Luncheon given by Harry Fosdick to newspaper men and friends in the Danish room at The Hayward.

Wednesday afternoon:—Charles J. Glidden, New England representative of the St. Louis tour committee of the A. A. A., will meet delegates from the New England clubs to talk over arrangements.

Thursday afternoon (possibly):—Meet-

*By error the engraving of Symphony Hall, published last week, was entitled Horticultural Hall.

workmen to nearby points when repairs are needed in a hurry. The company made an experimental purchase of two machines last year but had little success with them. Several of the prominent officials of the company, however, are enthusiastic automobilists and they will try the experiment again with heavier machines equipped with more power.

As a commercial vehicle the automobile has made no headway in this part of the South. Motor delivery wagons are rare and auto trucks are unknown. The streets in most Southern cities are well paved, and there will soon be a good opening for the makers of these kinds of vehicles.

Road Making in Massachusetts.—II.

Methods for Draining, Surfacing, Rolling and Finishing Macadam Highways, as Practised by the Best Engineers.

By ASA GODDARD.

(Continued from page 301.)

GRADING AND DRAINAGE FEATURES.

I AM devoting considerable time to the grading and drainage features, as they are of importance not only in the construction of a road, but if properly done at the start, they are done for all time or as long as the road is maintained.

It is a safe statement to make that there is no soil in the country that will not support a road and its traffic, if the water is kept out of it. How to accomplish this is a difficult problem, which must be solved by expert study of local conditions. With a macadam or a good gravel surface properly crowned and with suitable gutters, no trouble need be feared from the water getting through the surface. And, as I have previously said, it was customary to fill across swampy land sufficient to elevate the finished roadway 4 or 5 feet above any standing water; there is no fear from this direction, but through cuts and along-side hills where heavy soil exists the difficulty is found.

In this and similar situations, the water filters through the soil under the road and the frosts of one winter will suffice to tear the best macadam road to pieces. To prevent this, we dig a trench on the upper or hill side of the road, or in a cut on both sides parallel to the hardened surface of the road, about 3 feet deep. On the bottom of this trench we lay small vitrified clay pipe, 5 or 6 inches in diameter, with open joints, and refill the trench with crushed stone, small cobbles or screened gravel. This cuts off the water which would otherwise leak into the roadbed and carries it away through the small drain pipe to a culvert or some other suitable outlet. With the water kept out the roadbed is left dry at all times and impervious to the frost in the winter. When the road has been graded and properly drained, from 6 inches to 12 inches of gravel is spread over the surface, if procurable at a reasonable price. If not, then the best material obtainable is used, such as sand, cobbles, or any kind of earth that will not hold the water. In many cases the old surface of the road is thrown to one side to be returned for a subgrade for the final surface, as in many instances a thin layer of gravel has been carted a long distance perhaps, to make the old road passable. After this the steam roller is put on and the subgrade made as hard as possible. After the road is thoroughly rolled, the section to be surfaced is shaped to conform to the shape of the finished road as shown by the plan which usually provides for a macadam surface 15 feet wide and 6 inches thick, after

rolling with a gravel shoulder 3 feet wide on either side.

SURFACING WITH STONE.

Most State roads in Massachusetts are surfaced with broken stone laid in three layers of different sizes and rolled with a steam roller of from ten to eighteen tons weight.

In many cases suitable stone can be secured from farmers in the vicinity, in which case a portable stone crushing plant is set up and the material crushed and screened on the job.

Where stone is plenty and of suitable character, this method is more desirable, as it rids the farms of their burden of stone wall and unsightly heaps so often seen in the fence corners of New England fields, and a greater portion of the money appropriated is expended locally.

In other instances where local stone is scarce or of poor quality for road making, it is necessary to ship in on cars what is known as "trap rock," a very hard and durable material. In either case the method of laying is the same, and as follows:

On the prepared subgrade is spread 6 inches of broken stone that will pass through a 2 1-2 inch screen and not finer than 1 1-4 inch, called No. 1 stone. When properly rolled with steam roller, this compacts to about 4 inches. This is a matter requiring care and judgment, as it is just as important not to roll too much as it is to give it sufficient rolling. A road insufficiently rolled will ravel and lose its shape, while a road rolled too much will not wear half as long as it should.

When the layer of No. 1 stone has been properly rolled, another layer of broken stone is spread over it of a smaller size varying from 1-2 inch to 1 1-4 inches and about 3 inches deep. Then the same careful process of rolling again until the second layer is thoroughly tied to the first and is thoroughly compacted.

PROCESS OF ROLLING.

If there are any uneven places, no matter how slight, they have to be evened up at this point, as this rolling governs the finished surface and every spot must be up to grade and crowned to specifications, which is 3-4 inch crown to the foot, or, in other words, about 8 inches higher in the center than at the outside of shoulder, on a 15-foot road. After all uneven places have been cared for and this No. 2 course of stone smoothed out with the steam roller, a layer of screenings or crushed stone that has passed through a 1-2 inch screen and from that down to the finest dust is spread

over it. It is necessary to spread this last course very evenly and when it has been applied, the sprinkling wagon is brought into use and the fine material thoroughly washed into the interstices of the coarser stone at the same time the steam roller is getting in its work packing the entire mass together while wet. This is kept up by spreading more dust and keeping the surface wet until the whole mass of stone is thoroughly bonded and impervious to water, and rolling is continued until mud flushes to the surface under the wheels.

In spreading the broken stone for the surface of the road, we are not permitted to dump it on the subgrade from carts or wagons, but dump it on a board or platform about 4 feet by 6 feet, and the broken stone is spread by shoveling from this board. This compels the spreaders to distribute it evenly, while if it was dumped in heaps they would only level off the top of the heap which would apparently be sufficient, but wherever this has been done it shows on the surface of the road after a year or two wear where every load was dumped.

CONSIDERATIONS OF SOIL.

In certain sections of the State, especially that section known as the Cape district, the soil is of such a loose character of sand that it is almost impossible to keep it still long enough to apply any kind of a hardened surface. This sand makes an excellent foundation for a road, if it can be controlled long enough to get the surface laid and rolled, and many devices had been tried until someone suggested cheesecloth, which proved to be just the thing and not expensive. The trouble with this sand is that it will not pack under a roller, and when broken stone is spread on it and the roller put on, the sand will come through the stone, and the stone goes down to replace it. It would take an enormous quantity of stone before it would hold up under a roller, but with the cotton cloth spread over the sand subgrade and the broken stone spread on it, the sand is compelled to stay where it belongs while the steam roller compacts the stone.

In one instance I had a piece of road to build on Cape Cod, on some of this sand and quite near the shore. As there was considerable seaweed on the beach, I tried a layer of this as thin as it could be spread on the sand subgrade, and laid the broken stone on this, and a good road was the result after rolling.

For the past four or five years, the State of Massachusetts has built macadam road where the travel is light only four inches thick, the wisdom of which I have grave doubts about, as they must come to repairs much sooner than a road of standard thickness.

Another method they have adopted during the past two or three years, is that of grading and draining a piece of road and putting in the culverts and bridges, and graveling the road quite heavily, running a steam roller over it a few times to pack

down the surface, and let the travel over it a year or two, and then shape it up and macadamize it. This method has the advantage of giving fills a chance to settle before the macadam is laid, and insures a more even surface when finally completed, but the road is apt to be more or less rough during the time intervening between the grading and final completion.

THE FINISHING TOUCHES.

After the surface of the road is completed guard railing of a standard pattern is erected at the ends of culverts across fills and along embankments. Stone monuments are set at the intersection of all angles, and on the lines of location, marked "M. H. B.," meaning Massachusetts Highway Boundary.

Through the country districts, where practically all the State road is built, a location is taken 50 feet wide, and when possible 60 feet wide, but only from 12 to 18 feet is macadamized—in most instances 15 feet.

Up to the present time Massachusetts has expended about \$5,000,000, has built and maintained upward of 400 miles of as good road as can be found, and is adding about 50 miles a year. With the passage of the Brownlow Bill now before Congress, we could nearly double the annual construction.

(Concluded.)

AUTO SCHOOL IN DETROIT.

Special Correspondence.

DETROIT, March 14.—Following the lead of the Y. M. C. A. of Boston, Buffalo and Providence, the Detroit Y. M. C. A. is making arrangements to establish a school of automobile instruction which will probably be in operation in another month. Dr. A. G. Studer, general secretary of the association, has been trying to establish this school since the one in Boston proved so successful and he has been in consultation with President Clarence A. Black, of the Cadillac Automobile Company, who has promised to cooperate with the movement. Dr. Studer says, to the extent of furnishing one of the Cadillac automobiles for study and, if the association wishes, will donate the services of one of its construction experts for demonstration to classes.

It is proposed to instruct not only automobile owners and enthusiasts of the city, but also to outline courses of study for men employed in the various manufacturing plants and garages of the city. An effort will be made also to induce manufacturers and garage owners to place their cars on exhibition and to throw open their shops for study by the classes. Plans are now being matured by Educational Director William B. Van Aiken, of the association, and courses in gasoline, steam and electric automobile construction will be instituted after lines already laid down in the cities formerly adopting the plan.

Private Garage for Dry Goods House.

An Establishment, Especially Planned, is Being Erected in New York for Saks & Co.'s Motor Delivery Service.

PRIVATE owners and automobile dealers have erected a number of well-appointed buildings for the storage and care of automobiles in the past three years, but the new Saks garage in New York is the first complete establishment, we believe, which has been designed by a business firm for the exclusive housing of commercial self-propelling vehicles.

Saks and Company are one of the largest retail outfitters and dealers in men's and women's furnishings in New York, and since the opening of their business have used automobiles exclusively for the delivery of their goods to customers' houses.

The plan of Saks & Co., already well under way, will be a strong contributory factor to a more general appreciation of the importance of supplanting the obsolete horse with the modern automobile. The idea should come in for a goodly share of notice from the humanitarian, when it is considered that an equipment of fifty automobiles displaces about three times as many horses, it being necessary to provide a wide margin of extra animals to take the place of the ones rendered unfit for service and in the hands of the veterinary.

Besides the marked economy of handling from fifty to sixty cars under the most favorable engineering conditions, such a garage, for large users, possesses a far-reaching value in the absence of depreciation of abutting property, always a heavy consideration in the location of a stable for horses. There can be no objection urged against the erection of a building of pleasing architecture, in any but the most fashionable residence districts, if the uses to which it is put are no more unsanitary than the storage of automobiles.

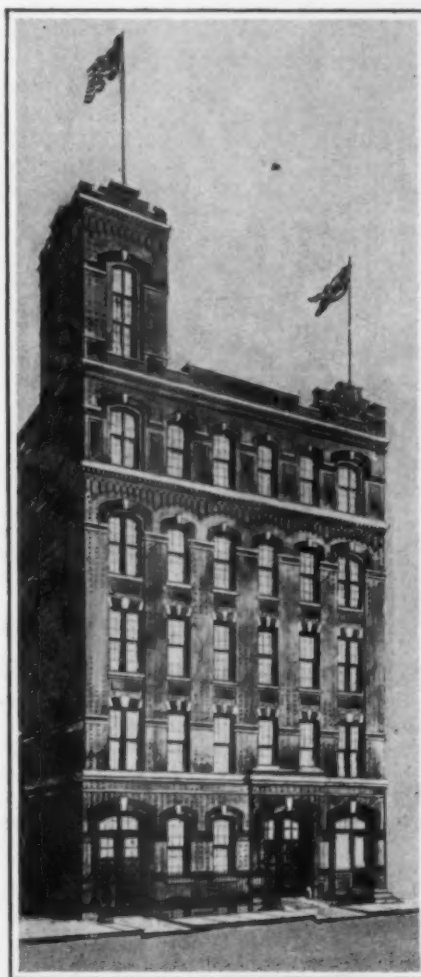
In this connection it is interesting to note that a new stable which is being erected in New York for Henry Siegel, who has under construction an immense drygoods store, will accommodate 250 horses and will have a hospital where injured animals may be patched up for further service. As the hospital will be arranged to care for not less than forty horses at a time the percentage disqualified temporarily for use may be roughly estimated.

The plans for the Saks' garage were prepared by A. L. Goldstone, an architect, at 110 West 34th Street, New York, and call for a brick and steel structure five stories in height with elevator tower. The exterior will be of pale red brick laid in Flemish bond with dark headers and with Bedford stone trimmings. While no attempt has been made to follow any particular style of architecture, the building has been designed to exteriorly express the use to which it will be put. The outside dimensions are: 55 feet width and 90 feet depth, covering the lots at 413-417 West 27th Street.

The main floor and basement will be given over entirely to the storage and care of automobile wagons and trucks, while the upper floors will be used for warehouse purposes for the reserve stock of goods handled by the firm. The building will be provided with a four foot areaway in front to light the repair shop in the basement, the two vehicle entrances and the smaller door and vestibule being reached over cement surfaced arched ways extending across the areas.

The main floor is entered at the door under the tower or by means of a large doorway near the center of the front of the building. The doors, which are hung to slide, are fitted with sash of generous dimensions, affording good light to the front of the storage department. The flooring is laid herring bone of two thicknesses of 2-inch tongued and grooved planking, with asphalt and five-ply felt interposed to make the floor absolutely waterproof.

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ELEVATION OF SAKS & CO.'S GARAGE.

The present intention is to provide charging plugs for about fifty machines (the entire equipment at this time being electrically driven) which will be disposed around the walls and on the central line of columns, so that the batteries may be charged without moving the wagons after the operators have placed them in position for storage. City current will be used for charging, lighting and the operation of the elevator.

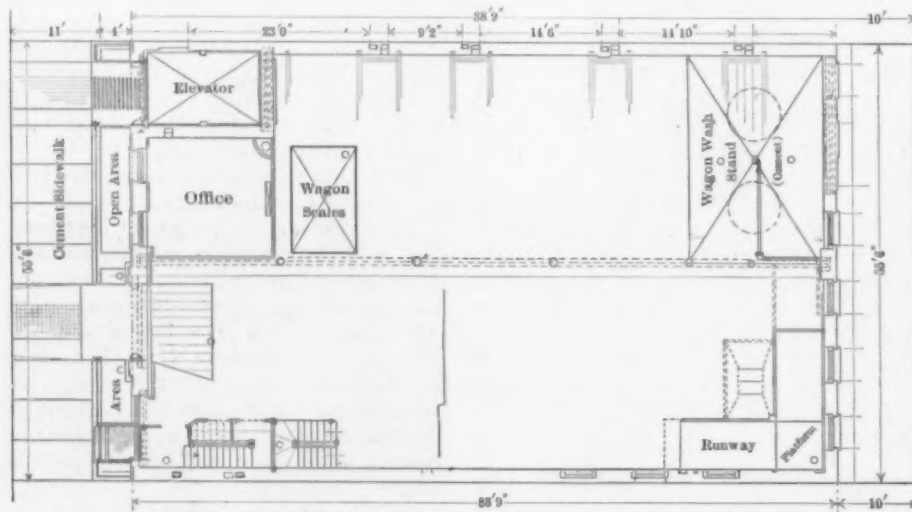
A washing stand with dished cement floor, 17 1-2 by 26 feet, is provided for the cleaning of vehicles, which are to be run on

the operators. A large lavatory with all the necessary fittings is conveniently located at the foot of the stairs and just beyond is a locker room, 21 by 24 feet, with 74 lockers, each 16 by 24 inches square. Opening from the locker room is a tailor shop 9 by 21 feet, where a head tailor and several assistants will clean, press and repair the liveries worn by the operators—a commendable move which will undoubtedly have a marked influence upon the thousands of people who will daily see the automobile delivery wagons of Saks & Co., manned by neatly attired

Transfer Company and the Transfer Stables. These two concerns have been running advertisements in the local newspapers during all of that period intimating that the intention to substitute motor wagons is the reason for wishing to dispose of their entire lots of horses, express wagons and harness. Yet never a sign of an automobile has been seen around their stables, although they have sold thousands of horses.

Although one concern advertises that "500 head of horses and mares, thrown out of work by our motor system, must be sold at the rate of 60 a week" and the other that 1,000 horses and mules, from \$15 to \$150; also 300 sets of harness, and some single and double express wagons, "must be sold immediately to make room for alterations of our stables" (ostensibly for the installation of the new motor wagon service), neither is anything but an ordinary horse sales stable. The appearance of the places stamps them as "gyp" resorts—little two-story affairs with twenty-foot fronts. When the young man in charge of the office of the U. S. Transfer Company was asked when the new motor wagons would be in service, he said in three weeks. "What power will be used?" he was asked. "Why—er, I guess it will be steam—or, I'm not sure, maybe we'll use electricity."

A reporter for the *Ledger* interviewed the manager of one concern and was given a lot of talk about the proposed new service,



PLAN OF MAIN FLOOR OF SAKS & CO.'S PRIVATE MOTOR WAGON STABLE.

to the elevator and dried in the sun on the roof when weather conditions permit. The elevator, 14 feet 8 inches by 16 feet 6 inches, has been so positioned in the building that a vehicle may be taken down from the roof and run out of the building without any maneuvering after it reaches the ground floor.

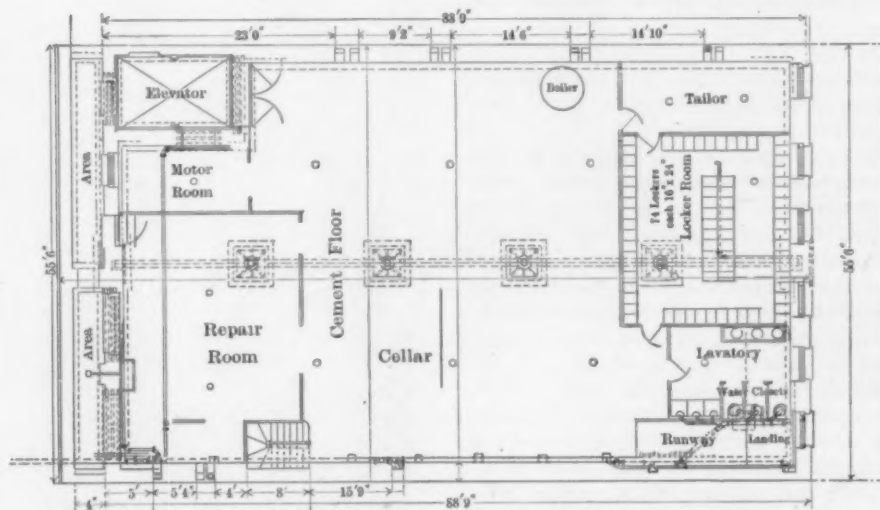
In order to make the roof available for the novel purpose of sunning the vehicles, the elevator shaft has been extended and a tower built over it high enough to provide a level landing when the elevator and its load reaches the limit of its upward travel.

The roof is paved with flat tiles, and pitched at an angle sufficient for satisfactory drainage. A parapet safeguards the machines and operators when on the roof of the building.

An office 15 feet square is partitioned off from the main floor with windows on all sides, affording an uninterrupted view of the entire floor. In this room is located the scale beam of a six-ton wagon scale which has a platform sufficiently large to take vehicles of extreme length.

The repair shop in the basement will be equipped with tools and machinery to effect all ordinary repair work, it being the intention of the concern to attend to the up-keep of the self-propelling vehicles so far as may be practicable.

A feature of the garage is the provision made in the basement for the comfort of



ARRANGEMENT OF BASEMENT FLOOR, CONTAINING DYNAMO ROOM AND REPAIR SHOP.

chauffeurs whose appearance will be a convincing argument in favor of the cleanliness of the power-driven vehicle.

AUTOS SELL HORSES.

Substitution of Motor Wagons Does Duty for Two Years.

Special Correspondence.

PHILADELPHIA, March 14.—A clever scheme for promoting the sale of draft horses has been successfully worked here for nearly two years past by the U. S.

which he wrote up and which was printed. In consequence he spent a bad ten minutes with the "old man" and is now more careful than he was about taking talk for facts.

The French rules for motor boat racing under the auspices of the Automobile Club of France have been translated and will be used by the committee of the American Automobile Association in preparing its rules for the conduct of power boat racing in this country. The French club has a motor boat division which looks after the sport on the water.

Arrangement of World's Fair Auto Exhibit.

The accompanying diagram is a floor plan of the American automobile section of the Transportation Building at the Louisiana Purchase Exposition, to be opened in St. Louis next May. Not only have the allotments of display space been made, but all the details of decorations and signs have been settled and arrangements have been made for the free return of exhibits to the place of shipment, for insurance, janitor service, exhibitors' tickets, the distribution of catalogs, etc., full details of which were to be forwarded to exhibiting members of the National Association of Automobile Manufacturers this week.

The space to be occupied by the associated exhibits is slightly more than 40,000 square feet. This is covered by a platform, about 6 inches high, of Georgia pine, thoroughly stained and varnished. At each of the principal corners there will be reared a group of fine fluted columns, mounted upon a suitable base, the height from the platform to the top of the globe being 11 feet. At intervals of from 25 to 28 feet there will be groups of three similar columns and between them, at intervals of about 8 feet, shorter pillars supporting brass signs 2 feet 6 inches over all, the base representing one-half of an automobile wheel, the standard rising from the hub. No other signs will be used. The positions of these various pillars are indicated on the floor plan. There will be no divisions between the spaces, the intention being to present one complete group of American cars.

The pillars will be finished in white, with the globe, the fluting, the raised work on the capital and the panel on the base in gold.

The partition which divides the automobile section from the railroad department, and the wall on the opposite side and at one end, 1,065 feet in all, will be 12 feet

high. The wainscoting will be 5 feet high, the base and cornice 12 inches wide. The upper panels will be of green and the lower of red burlap, the moulding and composition work of the cornice finished in gold. The pillars of the building will be similarly treated and faced with fluted columns.

The equipment of the spaces will also include desks, revolving chairs, armchairs, Smyrna rugs and box lounges, thus bearing out the original intention of so preparing the space that the exhibitor will have nothing to do beyond placing his cars or other goods in position.

At either end of the central row of spaces will be a commodious space fitted with

famous board track of the "Velodrome à Hiver" in Paris. The car, driven by Tavenant, is one of the 110-horsepower machines that M. Gobron proposed to match against W. K. Vanderbilt, Jr.'s Mercedes after the news of the Florida record-smashing event reached Paris. The other feature of special interest is the track itself, on which indoor racing is held in Paris. The track is laid in one of the old Paris Exposition buildings, which originally housed the machinery exhibit. The center of this huge structure is occupied by the "Salle des fete," in which one of the early automobile exhibitions was held. Here also the winter bicycle races are held



TAVENANT, IN 110-HP. GOBRON-BRILLIE, ON PARIS INDOOR BICYCLE TRACK.

desks, chairs, an abundance of seating, telephones, stationery and reading matter, for the accommodation of visiting dealers and friends of exhibitors.

The total expense of all these preparations, per square foot, will be lower than has ever before been charged at an exhibition for space rental alone.

The press will be cared for in comfortably appointed quarters on the second floor, at the end of the Transportation Building.

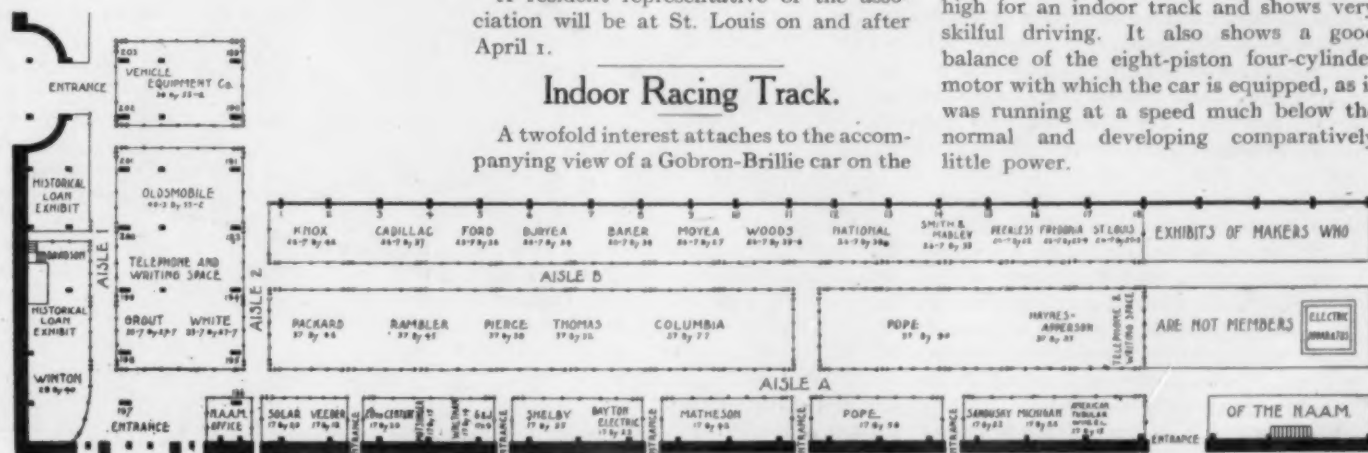
A resident representative of the association will be at St. Louis on and after April 1.

Indoor Racing Track.

A twofold interest attaches to the accompanying view of a Gobron-Brillie car on the

every year, and attended by vast numbers of sport loving Parisians.

The track is made of pine flooring laid lengthwise and measures 333 meters, exactly three laps to a kilometer, about 366 yards. It is steeply banked at the turns, which are very sharp for automobile driving. For the first time the track has been used for automobiles this season. In a trial the Gobron-Brillie car covered one lap in 15 3-5 seconds. Although this speed would not be remarkable in the open, it is high for an indoor track and shows very skilful driving. It also shows a good balance of the eight-piston four-cylinder motor with which the car is equipped, as it was running at a speed much below the normal and developing comparatively little power.



PLAN OF AMERICAN AUTOMOBILE EXHIBITS AT THE LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, MAY TO NOVEMBER, 1904.

NEW YORK-CHICAGO ROAD CONVENTION.

Two-Day Meeting and Banquet of Good Roads Men at Erie, Pa., to Discuss Plans for Continuous Highway that Will be a Powerful Example.

Another big lift is being given the New York and Chicago continuous good road enterprise at a convention in Erie, Pa., this week, the Chamber of Commerce of that city having lent its support to a two-days' session of the New York and Chicago Highway Association, set for March 16 and 17, to be held in the Chamber of Commerce hall, for the purpose of arousing general interest in the interstate highway plans. A banquet was arranged for the night of the 16th, and arrangements were made with the railroad companies for reduced rates for delegates. Invitations were extended to United States Senator Joseph B. Foraker, member of Congress W. P. Brownlow, father of the Brownlow bill; Governors Pennypacker and Herrick, of Pennsylvania and Ohio, the mayors of all the cities on the route of the proposed highway, from Mayor McClellan of New York to Mayor Harrison of Chicago, and to President Cassatt, of the Pennsylvania Railroad and President Alexander Mc-

gressed more rapidly than anywhere else along the road, owing entirely to the assistance given under State aid. A considerable portion of the road through the southern tier of counties in New York State has been constructed, and the supervisors at Elmira decided, at their last meeting, to expend \$254,000 for the construction of highways in conformity with the plans of the State engineer, and according to the plans of the New York and Chicago Road Association.

The wideawake citizens of Erie have taken hold of the work and a survey is being made in Pennsylvania, between the New York State line and the Ohio State line. This work in the Panhandle of Pennsylvania will come under the State Aid Law, which was passed at the last Legislature at Harrisburg.

The purpose of the New York and Chicago Road Association is the building of an object lesson road, which, it is believed, once accomplished will be but the forerunner of many others and will establish a precedent for the building of continuous lines throughout the country. This movement is especially attractive to the agricultural population, as well as tourists by bicycle and automobile.

This proposition for a continuous high-

BUFFALO EXHIBITION A BIG REVELATION.

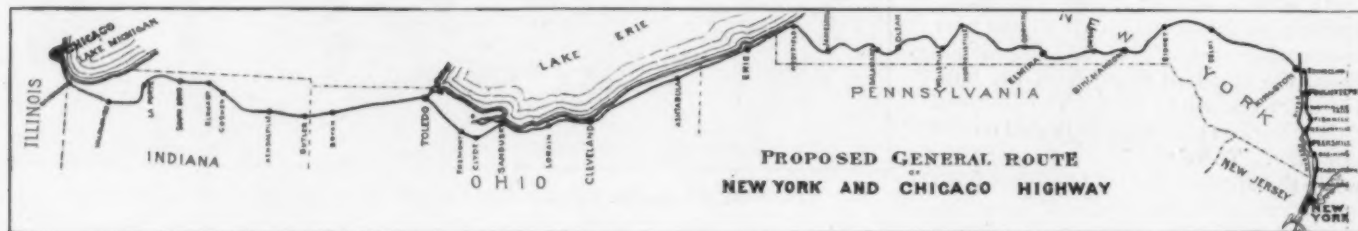
Surprising Growth of Popular Interest in Motoring Shown by 53,000 Paid Admissions and Sales Aggregating \$400,000—Everybody Pleased.

Special Correspondence.

BUFFALO, March 14.—The second annual automobile show of the Automobile Club of Buffalo passed into history at Convention Hall last Saturday night, with a demonstration similar to that with which it was opened. One effect of the show was to conclusively establish Buffalo as one of the greatest automobile centers of the country, it having been demonstrated that the city ranks in the same class with Cleveland and Detroit in importance, from a trade viewpoint.

Socially, commercially and in attendance the show was a record-breaker. It was estimated that the number of tickets sold was 53,000 and the total attendance by tickets and passes was estimated at 64,000. The total number of cars sold was reported to be 300, representing a total value of \$400,000.

Every evening of the show the attendance was larger than was ever seen at



Neil of the Good Roads Association of Halifax, Nova Scotia. Among those who accepted invitations to make addresses were: Hon. Martin Dodge, director of Office of Public Road Inquiries; Hon. James H. MacDonald, State Highway Commissioner of Connecticut and president of the American Road Makers; Hon. Edward A. Bond, State engineer and surveyor of New York; Hon. Henry I. Budd, Commissioner of Public Roads, New Jersey; Hon. H. S. Earle, ex-Senator and State Highway Commissioner of Michigan; Hon. Joseph W. Hunter, State Highway Commissioner of Pennsylvania, and United States Senator A. C. Latimer. Col. Albert A. Pope agreed to preside over the sessions of the convention.

Although the New York and Chicago Road Association is only two years old, it has created great interest in the project of a continuous good road from New York to Chicago, following the route shown in the accompanying map; not only in towns and localities adjacent to the projected route, but has caused a widespread feeling in its favor throughout the country.

The work in New York State has pro-

way between New York and Chicago has met with the endorsement of the boards of trade, chambers of commerce, city councils and prominent citizens. It appeals to the good sense of the people, who realize that a continuous good road will not only benefit them locally but offer a great inducement for through travel. By the cooperation of the States, counties, cities and towns, thus concentrating their energies, it will be perfectly feasible to construct a continuous highway between New York and Chicago which will increase the valuation of property along its entire length far in excess of the cost of construction and will be an object lesson to the entire country.

IN FLORIDA recently, so the story goes, an alligator was chasing a "picaninny" across a road, when suddenly a 20-horsepower automobile struck the reptile, breaking its neck. The only damage to the car was a puncture, caused by one of the alligator's teeth. The reptile is to be stuffed and presented by the driver of the car to the Automobile Club of America.—*Decatur (Ill.) Herald.*

any indoor gathering in Buffalo before, and the visitors were representative of the wealth and culture of the city. The attendance was greatest Saturday night, when 14,000 persons visited the show.

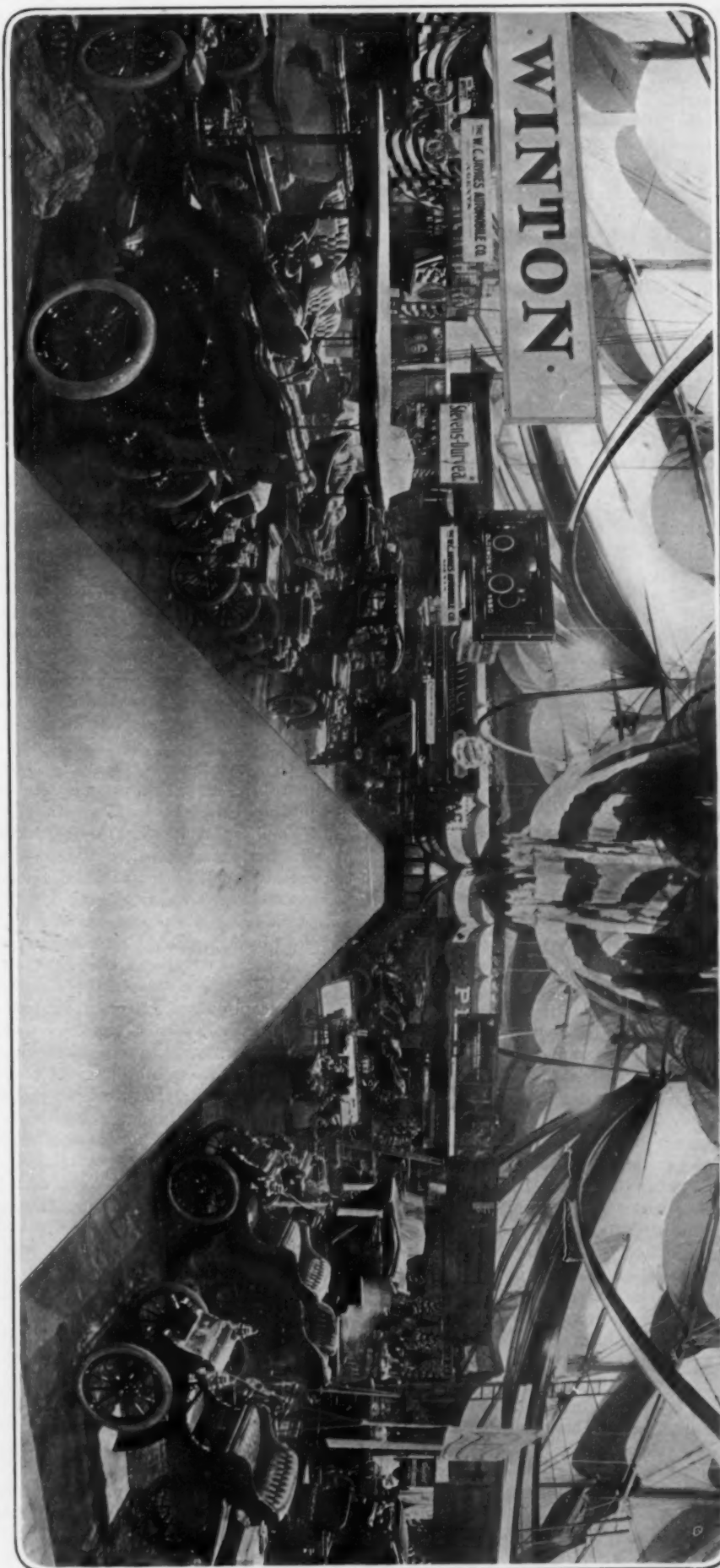
All the officials in charge of the show and many distinguished visitors expressed satisfaction with the display, some saying that it had exceeded all expectations. Henry Ford, of Detroit, a veteran automobile enthusiast and builder and an exponent of racing, told how he broke the record on the ice at Detroit on January 12, and said he intends to build a new racer next fall. He thinks a mile can be made in thirty seconds, and will do it if he can. His new machine will be built on entirely new lines, solely for speed.

The membership committee of the Automobile Club worked hard for new members throughout the show and it is said they have secured about one hundred new members. The names of many out-of-town visitors have been added to the membership roll.

MANY SALES MADE.

The Centaur Motor Vehicle Company made many sales at the show and have

PANORAMIC VIEW OF SECOND ANNUAL BUFFALO AUTOMOBILE EXHIBITION, HELD IN CONVENTION HALL, MARCH 7 TO 12.



ordered 235 Cadillacs for Buffalo. John J. Gibson, proprietor of the Buffalo Automobile Exchange, sold a 40-horsepower, six-passenger Apperson Bros. car for \$5,000, a \$3,500 Apperson Bros. four-cylinder car, five two-passenger touring cars and several others. The George N. Pierce Company took orders for six new Arrow cars and for twenty-five Stanhopes. J. Homer Betts, who has the agency for the Orient Buckboard, says he has disposed of sixteen of them and is much pleased with the result of the show. The Poppenberg Automobile Company sold an \$1,800 touring car to W. T. Crane of Syracuse, a \$2,000 Dumont touring car and another \$1,000 touring car to other customers. W. C. Jaynes, who has the Olds Agency in Buffalo, reported that he made sales and took orders for a total of fifty machines.

Dealers in automobile and chauffeurs' supplies did a large business. Ephraim Brothers, two popular young men who recently opened a large establishment on Main Street, head the list. They had a big display that attracted the visitors.

EXHIBITS EXPRESSED TO BOSTON.

The last of the exhibits of the show were removed from Convention Hall Sunday afternoon. They were placed on a special express train of nine cars, on which they were whirled away to Boston for the show which opened there tonight.

Nearly 150 vehicles were displayed here. The full line of seven models of Rambler cars was shown for the first time at a public exhibition by the D. A. Lewis Company. Much interest was shown in the Olds railroad inspection car, twenty of which were recently sold to the Japanese government. Nearly every visitor stopped to examine the Packard Gray Wolf, in the stand of the Centaur Motor Company.

ST. LOUIS RUN CHANGES.

Night Stops at Kingston, Delhi and Binghamton—Alton Left Out.

Of the changes made in the original route for the A. A. A. run to the St. Louis Fair, the most important is the one that makes Binghamton, N. Y., a night stop. From New York the first day to Kingston will be 90 miles, then to Delhi the second day, 71 miles, instead of Unadilla.

The third day will bring the tourists to Binghamton, 79 miles, with Bath, 104 miles, as the destination for the fourth day. A trip to Buffalo over 120 miles of smooth roads will occupy the fifth day.

It has been decided to make Bloomington, 126 miles, the first night stop after leaving Chicago, then Springfield, 60 miles, and the third day to St. Louis, 100 miles. This cuts out the stop at Alton as originally planned.

The caravan will arrive in St. Louis on the night of August 10 and will parade the following day, which is St. Louis Day at the World's Fair.

Correspondence

Advantages of 3-Cylinder Engine.

Editor THE AUTOMOBILE:

Sir:—I desire to construct a multiple cylinder, vertical type automobile engine, and from my limited knowledge feel that a three-cylinder motor contains many advantages over a two or four cylinder, four cycle type.

Will you be kind enough to give me an opinion upon this subject either in person or through the columns of your valuable magazine?

K. I. B.

Dayton, Ohio.

A three-cylinder motor will be almost as perfect as a four-cylinder as far as balance is concerned, as it would be far ahead of a one or two-cylinder motor, unless the latter are of an especially perfect design, not produced yet.

A three-cylinder engine will cost less than a four-cylinder to construct, if the saving in the number of parts such as cylinder, piston, valves, and igniters is taken into consideration, but a good deal of this saving will go into the crankshaft and crankcase construction. A three-throws crankshaft with arms set at 120 degrees will be required. This type is very expensive to make, unless the quantity allows special tools to be used. To give satisfaction this shaft will require a bearing between each cylinder which will also add to the cost very materially.

For equal power, a three-cylinder engine can be made lighter than the usual four cylinders.—Ed.

Roughness in Cylinder.

Editor THE AUTOMOBILE:

Sir:—I am constructing an 8-horsepower gasoline engine, and the cylinder is somewhat rough on the inside. Do you think there is any danger of those rough places getting so hot that they will ignite the charge? Will a block chain one-inch pitch by one-half-inch wide be advisable to use on a car having an 8-horsepower engine, where the traveling rate will not exceed twenty miles per hour?

OLE. O. KRAVIK, JR.

Marietta, Minn.

If the cylinder casting is not of a very smooth finish in the unmachined parts, this will not interfere with the ignition.

However, if the roughness is caused by a deposit of carbon or burnt material, the cylinder not being new, and having been used a long while with faulty lubrication, this carbon if present in large quantities will be likely to stay incandescent and cause premature ignition, especially with high compression.

Not knowing the size of your sprockets and road wheels, the speed of the vehicle is

not sufficient to allow us to determine the necessary strength of chain to transmit the power named, since the tensile strength required varies with the speed of the shafts. The best makers claim for a chain of the size named a breaking strength of 1,500 to 2,500 pounds, according to material used. Nickel steel is strongest.—Ed.

Racing Classification Discussed.

Editor THE AUTOMOBILE:

Sir:—I note with interest an article, by Mr. E. T. Birdsall, in your issue of February 6, regarding the classification of racing cars, and also your editorial upon the same. It seems that there is much to be said upon this subject. Narrowing it down, however, to the question of weight or piston displacement, I feel free to state that, in my opinion, the classification by weight is far preferable. While it is true that this system has been responsible for the building of some freaks, still no one who has studied the subject will attempt to deny that the present high development of the automobile has been greatly hastened by the weight requirements of high-grade racing machines. In no other type of automobile has there been such a demand for lightness, strength, and power, and the refinements necessitated thereby have been of no measured benefit to the industry.

It is only necessary to compare the light graceful lines of the thoroughbred racer with the clumsy construction of many of our stock cars, with their excess of oftentimes inferior materials, to be fully informed as to one phase of the case. A careful technical examination, would, in a majority of cases, further establish the fact that the lighter construction owing to the careful designing and to the selection of the most appropriate and finest materials, was also the strongest. As to the reliability of the racing cars, of light weight in proportion to their power, it is only necessary to follow any of the great road races in order to reverse the average automobilist's opinion on this point. The wonder is that any weight could stand such strains as are engendered by the continuous high speeds, and when we see a large percentage of these cars plugging mile after mile at express train speed, for days at a time, we are forced to admit that extra weight would only be a detriment.

It will be interesting to note in this connection the personal equation in the racing game in European countries, for outside of track racing and the Florida Beach record trials, there has been no racing in this country up to the present time worthy of comparison. Where could you obtain a better class of men in any sport, and is it safe to assume that their fearless driving was caused by foolhardiness, or was their confidence directly based on the knowledge from close personal acquaintance, that their cars were right?

So much for the benefits we have received from a weight classification. Now that it has to some extent served its purpose, what is to be expected from a classification based on piston displacement? It would seem at first glance that the direct result would be to place a premium on high engine speeds and high compression both of which have undoubted disadvantages when carried to excess. A second thought will also serve to convince that no commensurate benefit will be derived in the matter of weight. For example: Two rival manufacturers are designing racing cars of equal cylinder capacities or piston displacements.

Their first work will, of course, be to secure the highest efficiency. This problem worked out to the extent of their respective capacities, and their attention immediately is attracted to increasing speed by decreasing the work the motor has to perform. This means of course, other things being equal, decreasing the weight, and there we are again, without any increase in advantages to pay for the premium put on high motor speed and high compression.

The question, however, still confronts us. What is to be done to give the public the close finishes and spirited contests to which they are rightly entitled, and by so doing to foster the sport of automobile racing, from which the industry has received so many direct benefits? Doubtless the future may bring some satisfactory solution of this problem, but it will not be by empirical rule. That much is certain.

In horse races, where the distance is generally a mile or less and the contestants have natural limitations, exciting finishes are the rule. Suppose, however, that they were physically capable and that the distance was twenty, ten or even five miles, straggling finishes would probably not be the exception. Even as it is, past performances and present condition are most carefully taken into consideration, and even after making all allowance of weight for age and basing the whole on months of consistent performance, even then the public is obliged to forego the "close finishes" it craves.

Contestants in automobile races are now started together, but finish widely apart; as a suggestion, why not start them widely apart and let them finish close together, that is to say, when overtaken. Not in the sense of a handicap, however, but merely following out the idea of the Australian pursuit race. It will be an easy matter to start, say four contestants on a track, one at each quarter, each to be out of the race whenever overtaken.

This will insure close finishes and all are on even terms. The same thing could be worked out satisfactorily with a less number, either two or three, and at present high speeds, four contestants would be enough to be on the track at once. This system would be productive of exciting

contests and necessarily close finishes, and would, moreover, reduce to the minimum danger from collision. The starts would be simple. Station each contestant on his proper mark and have a flagman a short distance ahead of each. On signal from the starter, all flags would be dropped simultaneously.

Half of all track races could thus be Australian pursuit and for the other half only the closest matching of cars should be allowed, based on known performances. One or two races each day should be free-for-all in the respective weights in which all other restrictions should be removed.

Our present system of handicapping also is satisfactory neither to the contestant nor spectator. The time allowance always makes a straggling event and oftentimes no one but the judges can even tell who won. Automobiles cannot be handicapped by carrying weight, but why not devise some system of carrying extra wind resistance? It could easily be reduced to a science just how many inches of additional surface would equal a second to the mile and light plane surfaces could easily be attached which would make all contests struggles right up to the wire.

Another feature that would be greatly appreciated by contestants would be for the officials of the meet to provide suitable numbers, say two feet square and cause the same to be displayed at the end of each corresponding mile. In ten or fifteen mile races especially it is a great relief to the operator not to have to burden his mind with keeping track of the distance traveled.

In closing I would say limit all races and records to practical machines, capable of road use. The old class B of the association covers this point very well but ordinarily there is too much laxity in this matter. The Europeans are far in advance of us in this respect and very few, if any, of their racers are freaks in the proper use of the term. It is not fair for manufacturers who are putting out a practical car to be obliged to have its records compared with machines that are mere freaks, and that could not be driven with any degree of comfort or safety over ordinary roads. It is all right to develop cars specially for the purpose of racing, but when this development degenerates into the building of senseless freaks that cannot possibly be turned to any useful purpose, it is time to cry a halt.

An automobile to be of any practical use must have among other things, springs, good brakes, a reverse, two or more speeds ahead, proper differential, seats for at least one person besides the operator, and sufficient body and hood to cover the mechanism and protect it from dust and other exposure. Surely these limits are wide enough and, taking into consideration the present speed possibilities, there appears to be no reason for going outside of them.

I only make these suggestions for what they are worth, and as the result of my own limited experience. If they have no

other effect it may be to bring out others more valuable.

FRANK A. GARBUTT.

Los Angeles, Cal.

REPLY.

Editor THE AUTOMOBILE:

Sir:—I have read Mr. Garbutt's letter with great interest and in the main am in accord with his views. It is true that the weight classification is a good one and has served its purpose well. The conditions, however, which led to its success cannot be duplicated at the present time unless the racing is limited to cars of domestic build and long distance road racing can be indulged in. This is the combination that has made the foreign car what it is today. Weight classification and track sprints could not have accomplished the same result.

Piston displacement alone will not do it, but piston displacement combined with minimum weight and "no freaks" will give good racing. In other words, this will

them, in which event a means is, or should be, provided to tighten such chains from time to time, as they are bound to stretch with continued use. If sprocket chains get too slack they exhibit a tendency to "ride up" on the sprocket teeth, either breaking under the undue strain, or bending the light driving shafts to which the sprocket wheels are fastened. Once the shaft is bent the sprocket will rotate out of its plane and the chain cannot be kept in place until the shaft is straightened. This is frequently impossible without taking the pump or other mechanism apart, and even then it is not an easy proposition to make the shaft run true again.

Endurance Run Gold Medals.

The gold medals awarded by the National Association of Automobile Manufacturers for the most meritorious performances made in the October endurance run from New York to Pittsburg last year



OBVERSE AND REVERSE SIDES OF ENDURANCE RUN GOLD MEDALS.

reduce the classes practically to "one design" classes.

After over one hundred years of yacht racing, it has been found that no rule yet devised will eliminate the "rule cheater" and, therefore, in order to get good racing and close finishes the yacht clubs have resorted to "one design" classes with many construction dimensions fixed. These classes have been successful and have saved yacht racing from being killed by a few fast freaks.

Similarly automobile classes if once fixed would be built to, and all the machines in each class would be practically alike. I heartily agree with Mr. Garbutt that all machines should be fully equipped with brakes and change-speed gears and be otherwise practical road machines.

In addition to the regular classes, there could be an open class for freaks with infinite power, infinitesimal weight and homicidal proclivities.

EDWARD T. BIRDSALL.

New York.

UNLESS lubricators, circulating pumps, fans, dynamos and perhaps other accessory parts are gear driven, light sprocket chains are usually employed to operate

were recently sent to the fortunate manufacturers of the cars. The accompanying engravings show the obverse and reverse sides of one of the medals, which are each 2 1-32 inches in diameter and weigh 25 1-4 pennyweights.

The cars which made "meritorious performances," for which the medals were awarded were as follows:

No. 2, Columbia, driven by B. B. Holcomb.

No. 5, White, driven by Webb Jay.

No. 6, White, driven by Paul Deming.

No. 10, Toledo, driven by George Soules.

No. 14, Pierce Arrow, driven by Charles Sheppy.

No. 15, Pierce Stanhope, driven by Percy P. Pierce.

No. 16, Packard "Old Pacific," driven by Tom Fetch.

No. 35, Stearns, driven by Frank B. Stearns.

APPRECIATION of the work done by the Good Roads Association of the Automobile Club of America, of which A. R. Shattuck is chairman, has taken the form of a \$2,500 contribution from the National Association of Automobile Manufacturers.



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Automobile Racing Promoters. After a careful examination and trial of the course at Virginia Beach, the New York experts, who went down there for that purpose, found that none of the expectations were realized and that the beach was quite unsuitable for automobile racing. It is apparent that the only reason for supposing that the beach was fit to race on with large and fast cars was that races had been held successfully at the Florida beach and therefore why not at Virginia Beach? The local sportsmen were not responsible for this disappointment of public expectation. They had in view the holding of some local event on the course, that would satisfy local needs, but would not have a national flavor. There seems to be no doubt that a short stretch of good surface could be found on which light machines of the ordinary road type could safely race. Under such auspices persons attracted would come from nearby points and would doubtless enjoy a good day's sport.

In making preparations for a meeting of national importance something more is needed than good intentions. The best interests of the sport and industry demand that proper consideration shall be given to all details, and that a desire to hold a race meeting shall be accompanied by control of the practical, physical, conditions necessary to the successful carrying out of the meeting. It is well that the new sport of automobile racing shall

grow up in the way it should go. A race meeting held under any but the right conditions might easily result in loss of life or such public dissatisfaction as would prejudice the future of racing and possibly lead to anti-racing legislation, such as has been enacted in some States in the case of horse racing.

The future of racing lies more largely in the hands of the American Automobile Association than elsewhere. Upon it rests the privilege of withholding sanction of all races not carried out under representative and responsible auspices. From present indications it is probable that during the coming season various race meetings will be promoted by persons whose interest in the sport is philanthropic on the surface. By a strange coincidence, however, these meetings are of large benefit to summer hotels, real estate speculators and the like. The insidious influence of such agencies has worked a good deal of harm in other lines of sport, notably and recently in golfing.

An ounce of prevention may do a lot of good in automobilizing.

**Pacific Coast Progress.**

Unless New York automobilists bestir themselves they will have to yield place in progressiveness to their brethren at the Golden Gate. A paragraph from San Francisco appearing in the pages of the *Pacific Medical Journal* relates the discovery of some nice new diseases specially adapted to the use of the up-to-date motorist. It reads: "One becomes accustomed to most things. One may become accustomed to the auto, but the process is not healthy. A mental intoxication results from the fast driving that produces a deal of nerve waste. Many auto diseases are becoming prevalent in San Francisco. Prominent among these are catarrhal inflammation of the eye, nose, throat, ear, pharynx, larynx and bronchi and middle ear, and mastoid diseases, facial and other neuralgias. The most serious, however, are the affections of the nervous system. The motor wagoner will suffer from nerve tension and nerve waste. He is liable to become a neurasthenic."

This calls up a delightful mental picture of a group of automobilists seated on the veranda of the "Cliff House," each enjoying a mental jag and all discussing, not radiators and change speed gears, but the pharynx, larynx and especially the bronchi. We believe, however, that the discovery will not be popular with the proprietors of the "Claremont," the "Woodmanston Inn" or the "Garden City Hotel" in New York. Progressive auto builders should take the tip and include neat little medicine chests in the equipment of every well-furnished car. No doubt the *Pacific Medical Journal* would suggest the necessary tabloids and lotions and might also say what drugs would improve the health

of the "process." To be consistent, it only remains for the Pacific slope practitioners to abandon the automobile and go back to the horse.

**Concerning Skidding Troubles.**

One of the most reasonable fears of the motorist is that of an unexpected side slip. Every one knows what the side slip or skidding consists of: the wheels of the vehicle not having sufficient grip on the ground, the car slides sidewise, sometimes turns completely head for tail, or if the speed is excessive and the driver loses his head, it may even happen that the car turns over, although this is luckily a rare consequence of side slip. There is no doubt that with a car as well as with a bicycle, side slip can be almost entirely avoided, or at any rate made perfectly harmless, by a driver with a cool head, good experience and a sufficient knowledge of the causes of skidding.

In a recent issue, some of the main causes of skidding were given, together with a few suggestions concerning the best ways to avoid it. However, mention was not made of the two most useful factors of safety, carefulness and promptness of decision. Carefulness causes a driver to avoid excessive speed on an unknown road after a rainy day, or in a damp neighborhood, since a small amount of moisture on a clay road (the one most inviting to speed when dry) will make the ground as slippery as if specially prepared for an anti-skidding competition. Although no trouble will be experienced as long as the car goes at full speed ahead, the least braking action may cause serious side slip, it being a well admitted fact that of all the causes of side slip, of all orders and kinds, sudden braking is the most effective. Consequently, in a dangerous neighborhood the careful driver will keep his speed low enough to be able to stop, if necessary, without throwing his brakes, by simply disconnecting the clutch; it will also cause him to avoid sharp turns and will make him look for the largest possible radius when a turn has to be made.

If skidding does take place, quickness of thought will cause him to disconnect his clutch at once, in the meantime releasing his brakes, and if he is quick enough to suddenly turn his steering wheels in such a position that they will have an effect on the direction of the car just opposed to that of the side slip, he will have a good chance of coming out of it without any other trouble than a scare for his passengers, who will afterward speak of the incident with pride.



The only kind of skidding that the most careful driver cannot avoid is that caused in track racing by the turns of the course. With the speeds at which cars are driven under such conditions, the side slip is not of the same nature as that heretofore mentioned. Instead of being caused by a tendency of the car to change its direction,

it is caused by that of the car to keep moving in the same direction. It is a question of momentum or of centrifugal force, two explanations equally satisfactory being given for it.

The first one, the easiest to understand, is as follows: A vehicle moving in a rectilinear direction will have a momentum proportional to its weight and to its speed; when a curve is to be turned, the momentum tends to keep the car moving in its original direction, and the effect is the same as if a force were applied to the center of gravity of the car which would tend to cause a sidewise motion of the vehicle toward the outside of the curve. If the center of gravity is placed high enough above the ground, and there is sufficient resistance offered by friction due to the contact of the wheels on the road to resist sliding, this effort will tend to overturn the car, or at least to lift the inside wheels from the ground. If the center of gravity is placed low enough, and if the adherence of the wheels to the soil is but slight, skidding will take place. If the adherence of the wheels is sufficient to prevent sliding and the weight on the vehicle is great enough to prevent overturning, it might be possible for the tires to be torn off the rims, or if the wheels are of too light a construction, they might buckle. These extremely powerful sidewise strains furnish one of the most difficult problems for the designers of racing cars, who are looking for all chances to reduce weight.



Another explanation of the disastrous effects of high speed at sharp turns can be found in the action of centrifugal force, although this is but a repetition in another form of that already given. When a vehicle or any solid is moving in a circular path, it constantly tends to leave this path and follow a straight course along the tangent to it; and unless a sufficient reaction is opposed to this tendency, the moving solid will invariably take a rectilinear direction. This is avoided in the case of an automobile by setting the steering wheels at a proper angle, but since the two forces do not act at the same point, the action taking place at the center of gravity and the reaction at the contact of the wheels with the ground, the effects set forth in a preceding paragraph are likely to follow.

Returning to the ordinary skidding caused by the unfitness of the roads, both theory and practice demonstrate that the tendency to skidding increases with the difference in load between the two axles, with the size of the tires and with the pressure of the air in them, and also that it is reduced by the use of driving front wheels and steering rear wheels.

SELLING automobiles on the instalment plan has been started in New York by an advertising concern, which, for some unexplained reason, has eight cars on hand, which they claim are of the latest model.

A. C. A. MEMBERS FAVOR COUNTRY CLUB IDEA.

Nearly 100 Urge Rental of Privileges from Some Existing Country Club, While Others Demand A. C. A. Ownership and Management—T. M. Hilliard's Long Island Plan.

The country clubhouse committee appointed by the Automobile Club of America, consisting of Messrs. T. M. Hilliard, Emerson Brooks and Homer W. Hedges, has been canvassing the subject and a majority of the club members has been found to be favorable to the idea. Chairman Hilliard of the committee has found that ninety-six members so far interviewed strongly urge that an arrangement be made with some existing country club for the use of its premises on the basis of an annual contract at a certain lump rental, while the remainder of the members interviewed, forty-eight, are vigorously opposed to anything in the nature of an affiliation and demand a country club under the sole ownership and management of the A. C. A.

Mr. Hilliard advances the plan of a clubhouse, located preferably on Long Island by reason of its ready accessibility, which shall serve the members of the New York organization as a permanent all the year round home with facilities for caring for cars of members and a variety of easily available amusements.

His scheme, in brief, comprehends the purchase by the club of about 100 acres on which may be found an old fashioned farm house that will serve all the purposes needed for country club uses, the improvement of the grounds and the employment of a few servants.

It seems to be the desire of a considerable number of members to promote a plan for a clubhouse either in New York or in the country near by, which shall be mainly a place to eat and drink and possibly for the meeting of members in social intercourse. As the A. C. A. since its organization four years ago has been more of an executive body and a bureau of information than a social club, and the scope of the organization has been broader than that of other automobile clubs now existing in the country, it is urged by Mr. Hilliard that the needs of the club are more for a place of easy access where members may enjoy relaxation from city life than for a large city clubhouse designed and managed on conventional lines.

With the large tract which he suggests that the club acquire there will be sufficient ground available to carry out Mr. Hilliard's plans for a golf links, tennis courts, croquet grounds and a track. On the track a week long meet could be held each year, or, possibly, two such events, the races being open to members or owners driving.

The infield of the track would afford a suitable space for the display of cars and the events can be patterned somewhat

after the manner of outdoor carnivals now held abroad. It is Mr. Hilliard's intention to use his best endeavors to promote this scheme and to keep in view the exclusion of the slightest taint of professionalism from any events which may be brought off if the country club becomes an assured fact. He does not deem it advisable or even desirable for the club to maintain at its country quarters an elaborate kitchen and a small army of servants, a good cook and two or three handy men being sufficient to minister to the needs of the members who will avail themselves of the club for the purpose of outings. The choice of the chairman for location was narrowed down to Long Island because of the difficulty of reaching with a car the otherwise desirable points which lie in New Jersey and along the north side of Long Island Sound.

Territory to the north of the city while not inaccessible, calls for the traversing of a number of small cities where the enforcement of unreasonable speed ordinances has worked annoyance and often hardship to automobilists journeying from and to New York.

Much surprise was exhibited by Mr. Hilliard at the willingness of such a large number of members as ninety-six to consider an arrangement with an existing club for the use of its quarters. He points out the fact that rules for the control of members have been made without regard to such a deal being consummated; that members of the A. C. A. will of necessity feel considerable less freedom from restraint if they are permitted to use an established club's premises on sufferance, even if the concession is well paid for, than they may be free to enjoy if the clubhouse and grounds are the undisputed property of the members. He offers a suggestion for financing the country club movement by the flotation of bonds for \$50,000, which will be a sufficient amount. The many wealthy members of the A. C. A., it is believed, will make a liberal response to a definite proposition of this sort.

In case the committee is able to meet with a representative attendance, hitherto an impossible feat, the matter will be laid before the club and in case of the expected favorable action, work will be begun at once to carry out the plan which has been advanced by the chairman.

FLORIDA COAST AFFAIRS.

East Coast Association Elects Officers and Floats Club House Bonds.

The Florida East Coast Automobile Association, at a recent meeting, elected C. G. Burgoyne, of Daytona, president to succeed Dr. H. H. Seelye, and re-elected John B. Parkinson secretary and S. H. Grove treasurer. The executive committee is succeeded by a board of directors consisting of Dr. H. H. Seelye, George Clark, W. H. Peters, J. F. Hathaway, Louis Adler, and J. W. Wilkinson.

All the Ormond Beach events next year will be invitation races, with an increased entrance fee. The tournament next winter will be held between January 17 and February 6. New timing apparatus will be bought to time each intermediate mile of the long events.

Owing to the severe sickness of John B. Parkinson, secretary of the Florida East Coast Automobile Association, there has been a delay in the return of entrance money to competitors in the Ormond-Daytona tournament, but he now informs the representative of the association, W. J. Morgan, that those who are entitled to a return of entrance money will receive it promptly.

Mr. Morgan has decided that the Badger Brass Works, of Kenosha, Wis., through President R. H. Welles, shall present thirteen Solar searchlights to world's record breakers, in accordance with his offer made at the New York show, as follows: W. K. Vanderbilt, Jr., 7; and Chas. Basle, Louis S. Ross, W. J. Hastings, M. G. Bernin, and H. L. Bowden, one each.

President Chas. G. Burgoyne, of the Florida East Coast Automobile Association telegraphed Mr. Morgan last week that the new beach clubhouse is assured, as he had sold sufficient bonds to cover the cost of the building, which will be in the neighborhood of \$20,000. This clubhouse will be located near the entrance to the South Trail. It is President Burgoyne's intention to make it a place where members and visitors can spend a pleasant time and it will be the club's official meeting place. It will stand on the bluffs overlooking the beach course, affording a splendid view of future races and also commanding a beautiful marine view.

N. C. A. ANNUAL MEETING.

Officers Elected—Motor Pacing Discouraged—Championships at World's Fair.

At the annual meeting of the National Cycling Association, held recently in New York, the election of officers resulted as follows: President, A. G. Batchelder, New York; first vice-president, C. B. Bloemcke, Newark; second vice-president, P. T. Powers, Jersey City, and secretary, R. A. Van Dyke, New York. Board of control: R. F. Kelsey, chairman, Boston; P. R. Wendelschafer, Providence; N. E. Turgeon, Buffalo; C. Ross Klosterman, Baltimore; Harry Hartley, Jacksonville; J. N. Sharp, Salt Lake City; C. W. Carpenter, San Francisco, and Frank L. Kramer, New Jersey. Board of appeals: Abbott Bassett, chairman, Boston; M. L. Bridgman, New York; S. A. Miles, Chicago; Albert Mott, Baltimore, and Walter C. Wilson, Buffalo.

It was decided to hold national amateur championship meets at the St. Louis fair in connection with the professional championship and motor championship meets, the latter in conjunction with the Federation

of American Motor Cyclists. Authority was given the board of control to hold a meeting shortly to confer with the managers of the various tracks to arrange the racing schedule for the coming season.

The object of the association this year will be to eliminate, as much as possible, all paced racing, on the ground that it does not give a fair test of the ability of the riders; that it destroys their vitality for a series of races during the season and that several of the best riders in the country have been killed while following the motors. The association believes that sprint riding is the true test of the abilities of the riders.

DISCUSSED ST. LOUIS RUN.

Delegates from New England Clubs Instructed to Canvass Members.

Special Correspondence.

BOSTON, March 16.—Delegates from practically all the active automobile clubs in New England met at the Massachusetts Automobile Club this afternoon at 3:30 o'clock in response to Mr. Charles J. Glidden's invitation to talk over plans for organizing a New England party to join the National tour of automobile clubs to the St. Louis Exposition next July. Mr. Glidden is the New England member of the Tours Committee of the American Automobile Association, which is organizing the tour. There were present two delegates each from the automobile clubs of Bridgeport, Ct.; Hartford, Ct.; State of Maine, Portland, Me.; Berkshire, Pittsfield, Mass.; Brockton, Mass.; Lowell, Mass.; Marlboro, Mass.; Massachusetts Automobile Club, Boston; Wachusett, Fitchburg, Mass.; Springfield, Mass.; Worcester, Mass.; Granite State, Manchester, N. H.; New Hampshire, Exeter, N. H.; Rhode Island, Providence, R. I.; Vermont, Burlington, Vermont.

The Massachusetts State Automobile Association was represented by its secretary, Mr. L. H. Greenwood, of Gardner.

The American Automobile Association was represented by its secretary, Mr. C. H. Gillette, of New York. Chairman Augustus Post of the Runs and Tours Committee of the A. A. A. was also present.

Preliminary organization was effected, and the delegates were instructed as to making the canvass of their clubs to see how many members could be counted on to make the tour. A good deal of interest was manifested.

DETROIT POWER BOAT CLUB.

Special Correspondence.

DETROIT, March 14.—The new power-boat club projected in this city some time ago, was fully organized last week and is making plans for building a clubhouse. It is proposed to erect a building on the north bank of the Detroit River, which will cost, with interior fittings, approximately \$20,000. This will not, however,

include the cost of a country clubhouse to be built about fifteen miles out on the Grosse Pointe road on Lake St. Clair for the especial accommodation of the automobile members of the club. This is planned to give the automobilists, who are being encouraged to join the club, an opportunity for delightful country runs with dinner and luncheon parties at the end.

The club has elected as president John O. Teagan, one of the best and most favorably known power-boat men on fresh water, who is also an automobilist and who is working hard for the success of both interests of the club. Capt. Frank J. Miner, another power-boat man of standing, has been elected vice-president, and Fred Van Fleet, a member of the Detroit Yacht Club, is secretary.

It is proposed to finance the club within a year to allow for the building of the town clubhouse. The directorate of the club has a representation of motor-boat men, automobile men and yachtsmen in John M. Sweeney, W. F. Newman, B. F. Seidler, Gustav A. Moebis and George D. Grant.

SPRING RUN TO GETTYSBURG.

Suggestions Made at the A. C. A. Regular Weekly Meeting.—Question Night.

"Question night" at the Automobile Club of America on Tuesday, brought out a number of suggestions of value to the sport. Chief among the opinions offered was that the spring run of the club should be to Gettysburg during the latter part of May; that the A. A. A. should control auto-boat racing; that the club should promote an anti-skid trial, and that the rubber tire was the weakest part of an automobile.

Secretary Butler reported that with W. W. Niles he had visited Police Commissioner McAdoo with a view of checking the epidemic of arrests in Central Park. He gave proof that a very small number of the vehicles using the Park roads keep within the speed limit of seven miles an hour, yet only automobilists were arrested. More than sixty-five operators have been arrested since January 1, and there is a feeling that the policemen are discriminating against owners of power-driven machines. The Commissioner promised to try to have the speed limit raised.

It was said that the extraordinary activity of the police was due to the attention of a Mr. Brower, chairman of the Grievance Committee of the West End Association, who spends much time watching policemen and automobilists and makes charges against the former when they neglect to arrest the latter.

In attendance at the club talk were: Winthrop E. Scarritt, William Hawley, Philip Van Volkenburgh, Henry C. Cryder, Robert E. Fulton, Geo. B. Adams, John A. Hill, E. T. Birdsall, Alan H. Whitney, M. M. Belding, Jr., and others.

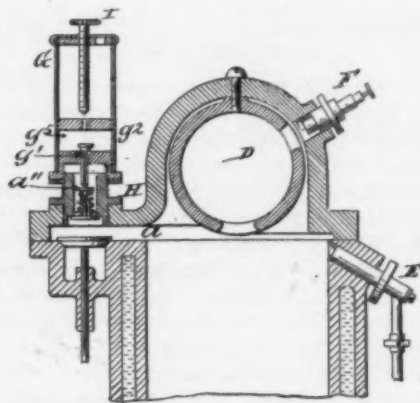
Patents

Kerosene Explosive Motor.

No. 753,331.—William W. Tuck, of Richmond Hill, and August Wassman, of Astoria, N. Y., assignors to Abbot Augustus Low of Horseshoe, N. Y.

An explosive engine for the use of the heavier hydrocarbons. The motor is designed to use kerosene without the preliminary heating of the ignition surface by external means, the usual method in engines of this type. The igniting surface is heated to the necessary temperature by starting the motor on a mixture of alcohol vapor and air which is ignited by an electric spark at the sparking plug *F*, Fig. 1. The air admission valve cage *H* is provided with threads on its exterior periphery to take the threaded alcohol-feeding device, *G*, which consists of a receptacle for holding a supply of alcohol; a valve chamber, *g*^h, an alcohol feeding valve, *g*ⁱ, all within the cylindrical casing *g*^j.

When it is desired to start the engine, the knurled head of the needle valve, *I*, is



TUCK AND WASSMAN KEROSENE MOTOR.

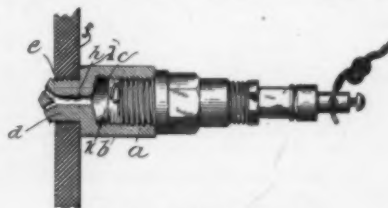
turned sufficiently to admit alcohol to the valve chamber, *g*^h, when by turning over the engine, air is drawn into the cylinder by way of the inlet valve *a*^h, carrying with it the alcohol which has been contained between the valves *g*ⁱ and *a*^h and allowing, by depression of the valve *a*^h closure of the alcohol feeding valve *g*ⁱ.

Suitable means of injecting the oil into the cylinder and against the igniting surface *D* are provided by the injector *E*, actuated by a cam driven pump. The usual feed of oil takes place during the use of the alcohol and air mixture and electric ignition but as it is desirable to introduce the oil at a less pressure than normal, the pump is provided with two feed cams, one of which produces a pressure about one-third of the other. As soon as the surface *D* is sufficiently heated to ignite the oil, the alcohol feed is cut off by closing the needle valve *I* and shifting the cams, suitable means being provided to cut out the electric current at the same time.

New Spark Plug.

No. 753,795.—William J. Hart, of Mt. Vernon, N. Y., assignor of one-half to Charles F. Splittorf of New York City.

A spark plug provided with an initial firing chamber. Means are provided for supporting the exterior wall of the plug whereby the fragile insulation is removed from the crushing effects of the expansion



HART SPARK PLUG.

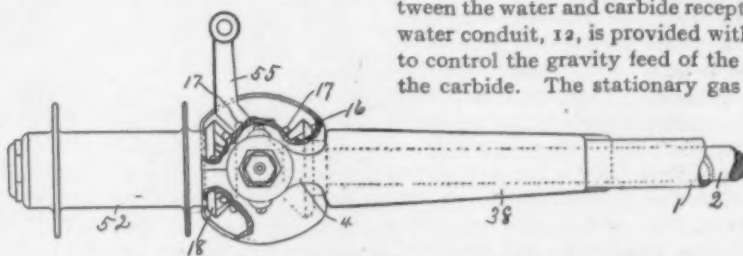
of the wall. The plug is shown in Fig. 2 screwed into position in the auxiliary firing chamber. The member, *a*, is provided with a hexagonal section, *b*, and a threaded portion, *c*, which screws into the explosion chamber of the motor, *f*. The hexagonal portion of the device is threaded to receive a spark plug of the usual construction. The portion, *d*, of the auxiliary or initial explosion chamber terminates in a cone-like formation and has a narrow passage, *h*, which communicates at one end with the space, *k*, and at the other end, through narrower branch passages, with the exterior thereof.

The initial explosion takes place in the space, *k*, the burnt gases being driven with great force through the small openings in the inner end of the device and igniting the compressed gases in the explosion chamber of the motor. By reason of the exterior location of the sparking points with reference to the motor cylinder the effect of radiation is taken advantage of in keeping these parts cool.

Four-Wheel Drive.

No. 753,317.—Edward Livingstone Russell, of Dallas, Texas.

A four-wheel drive for motor vehicles. The vehicle is designed to be driven from a single motor of any preferred type, arranged to drive two propeller shafts, one extending to each axle and fitted at their extremi-



STEERING KNUCKLE OF RUSSELL FOUR-WHEEL DRIVE.

ties with bevel gears meshing with bevel gears on the live axles.

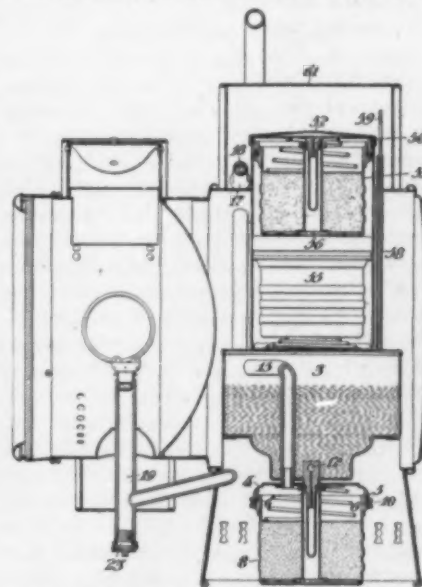
The front axle, 2, Fig. 3, is housed in a suitable tubular casing, 1, which at its outer extremities is carried on roller bearings in an extended steering fork, 4, which

is mounted on the tubular casings. The power is transmitted across the steering mechanism by means of mitered gearing, a gear, 16, being mounted on the end of the live axle, 2, and a gear, 17, mounted on a knuckle extending across the jaws of the steering fork, transmitting the motion of the gear-wheel, 16, to the driving gear, 18, which is affixed to the hub, 52, of the wheel driven. The stub axle of the driven wheel is formed integrally with the steering knuckle which is held in position by a properly secured pivot-bolt, suitable provisions being made for lubrication of the moving parts. The knuckle is provided with a lever, 55, integrally formed with it to connect with the steering device.

Acetylene Gas Generator.

No. 753,632.—Edwin L. Rosenblush of Philadelphia.

A magazine acetylene gas generator. The water receptacle 3, Fig. 4, is mounted in a stationary position in the casing body of



ROSENBLUSH ACETYLENE GENERATOR.

the lamp, a cap, 4, being provided with screw-threads which engage with corresponding threads upon the carbide receptacle, 8. Suitable flanges and gaskets are provided for removably sealing the joint between the water and carbide receptacle. A water conduit, 12, is provided with a valve to control the gravity feed of the water to the carbide. The stationary gas conduit,

15, extends from the top of the cap through the water receptacle and terminates at the top of the lamp casing, being connected at 17 with a flexible and removable section which contains the filtering medium, 18. The gas is carried downward through

conduit to the vertical member, 19, which is provided at its top with a burner of the usual type. A drip outlet, 23, is provided at the lower end of the vertical member of the conduit.

The magazine is located above the water receptacle and is accessible by lifting the hinged top, 61, of the lamp. The magazine is arranged to hold two or more separate carbide receptacles, 55, which are adapted to be interchangeably connected with the screw cap, 4, on the bottom of the water reservoir, but are normally closed by their respective screw caps, 56.

In the tubular sheath, 58, is a pocket to removably support a tool, 59, which may be used to clean the ash from the carbide receptacles after removing each from the cap at the bottom of the water reservoir.

SPRINGFIELD EXHIBITION.

Pleasing and Successful City Hall Show Nets Unexpected Profit.

Special Correspondence.

SPRINGFIELD, Mass., March 14.—The first automobile show under the auspices of the Automobile Club of Springfield, which opened last Tuesday in City Hall and closed Saturday night, was successful beyond the hopes of its managers and served as an auspicious beginning of the season. The hall, which has large floor space, was fully utilized, but the arrangement was such as to give free access to every car of more than thirty that were exhibited.

All the local manufacturers and agents showed their latest models, nearly twenty different makes being displayed, not including motorcycles. Several local merchants had fine displays of automobile clothing in attractive booths and there were a number of exhibits of automobile lamps, tires, wrenches, etc. The hall was elaborately and tastefully decorated with bunting and palms and the big electric signs were strong reminders of the national shows.

The exhibition was not held as a money-making scheme, but rather for educational purposes, yet not the least pleasing feature to the club is the fact that its treasury will be between \$500 and \$1,000 the richer as a result, which sum will be expended in promoting good roads legislation. The attendance was large on the opening night and increased steadily throughout the week, as many as 2,000 visitors attending in one day. The show was open afternoons and evenings and each night a fine concert was given by Short's Armory Band. A canvass among the agents the last night showed that fifty-five cars had been sold, most of them locally, during the week, many of them being of the touring car type. The aggregate sales amounted to between \$75,000 and \$85,000.

The show served to emphasize the importance of Springfield as an automobile manufacturing center, as displays were made by five local manufacturers of cars

and two of motorcycles. The novelties which attracted most attention were the Stevens-Duryea racer in which Otto Nestman demolished records at Ormond in January and the Knox chassis, electrically operated, with its mirror beneath.

Court Street, in front of City Hall, was occupied during the afternoons by a dozen cars used for demonstration purposes and these were kept busy taking parties of visitors for short spins. Saturday afternoon a control test was held, in which newspaper men and others were invited to participate. The show was well advertised by attractive posters, which were liberally distributed through the city and suburbs.

The cars shown included the Locomobile (steam and gasoline), Pope-Hartford, Stevens-Duryea and Columbia electric, by the Springfield Automobile Co.; Winton, Cadillac, Stanley, Waverley electric, White steamer and Orient Buckboard, by A. A. Geisel & Co.; Knox cars in four types, by the Knox Automobile Co.; Autocars and Oldsmobiles, by Whitten & Clark; Warwick cars and motorcycles, by the Warwick Company of Springfield; Automotor car by the Automotor Company of Springfield; Ramblers and Fords, by Hayes, Stannard & Cameron; car of own make and Thomas Auto-Bi, by J. H. Odhe of Springfield; Indian motorcycles, by Hendee Mfg. Co.

The success of the show was largely due to the careful planning and hard work of the following show committee: C. E. A. Cameron, chairman; A. A. Geisel, W. N. Stacey, B. J. Griffin, Dr. G. H. Finch, W. F. Anderson, J. E. Whitten and A. B. Case.

AUTOMOBILE SUPPLEMENTS.

Leading Sunday Newspapers Cater to Growing Public Interest.

The important place that the automobile has taken in the popular fancy is attested this winter in a new form—the special automobile supplement issued with the Sunday edition of the daily newspaper. It is difficult to say where the automobile supplement had its birth, but the large ones gotten out by the *Journal and Herald* in New York the Sunday before the opening of Madison Square Garden Show doubtless started the idea this winter. The *Chicago Inter Ocean* followed with a special supplement just before the Coliseum show, and the *Cleveland Leader* followed on February 28 with a colored automobile supplement of twelve pages—probably the largest ever issued. The *Detroit News* also got out a special section devoted exclusively to motor vehicles, about the same time. Then followed the *Minneapolis Sunday Times*. The *Buffalo* and *Boston Sunday* papers also paid especial attention to the subject just before the opening of the local shows in those cities.

The movement is a good mirror reflecting the fast growing interest of the general pub-

lic in the new form of conveyance and sport.

Useful features of the supplement published by the *Cleveland Leader* was a half-page map of Northern Ohio, showing good roads for touring, a synopsis of the automobile regulations in all the important towns, a complete list of the names of the owners of automobiles in the city, together with their addresses, a short history of the Cleveland Automobile Club with roster of members, a history of the invention and development of the automobile, a forecast of the show held in the Grays' Armory, and illustrated descriptions of many styles of power vehicles. Incidentally it carried three and a half pages of automobile advertising.

The supplement of the *Minneapolis Times* was only half as large, but there was no local show to stimulate interest in the subject. It contained a page map of the Twin Cities and their environs, showing good roads, a column of auto records to date, portraits of the prominent dealers of the city, with interviews with each and two and a half pages of advertising out of six pages contained in the supplement.

BOSTON PRESS BREAKFAST.

Informal Affair Given by Harry Fosdick During Show Week.

Special Correspondence.

BOSTON, March 15.—About twenty-five writers and advertising men, in Boston for the automobile show, were entertained by Harry Fosdick, the local Winton manager, at a breakfast in the Danish room at The Heyward this forenoon. Alexander Winton, Charles B. Shanks, and Percy Owen were special guests and sat with Mr. Fosdick at a small round table in the middle of the room. The others of the company were grouped by fours at other small tables through the room. The affair was entirely informal, but brief speeches of welcome and appreciation were made by Mr. Fosdick and Mr. Winton. There were special souvenirs for each man, in the form of handsome card-cases and pocketbooks with the name of the receiver and the Winton seal burnt in the leather. The ices were in the shape of miniature automobiles decked with a Winton banner and driven by a tiny chauffeur in black. The affair was a great success and the company dispersed on giving a round of cheers for Mr. Fosdick and Mr. Winton.

Among those present were J. C. Kerrison and Henry Hoey of the *Boston Herald*; Oscar L. Stevens and Harold Martin, of the *Boston Evening Transcript*; N. W. Bean, of the *Boston Advertiser*; Howard Reynolds and G. F. Madden, of the *Boston Post*; I. S. Clark and Samuel Mullay, of the *Boston Journal*; G. B. Sharp, of the *Boston Traveler*.

COMMODORE Harrison B. Moore, of the Atlantic Yacht Club, has offered \$1,000 with which to buy trophies for motor boat racing this season.

AUTO BOAT CLASSES.

New Rule Adopted by American Power-Boat Association.

On account of the pressure which has been brought to bear upon the American Power-Boat Association by the auto boat interests, the rule for the classification and measurement of motor boats was modified at a meeting held in New York last week so as to include those of the automobile type. It was claimed that the existing rule favored the older boats of slow speed to such an extent, on account of the time allowance to which they were entitled as to give the faster ones of newer design little chance of winning in races. The new rule in substance is as follows:

An automobile boat is one the rating of which exceeds ten times the square root of its water-line length. The midship section which is to be taken to find the actual rating is to be the actual greatest transverse section, instead of that at 55 per cent. from the forward end of the water line, which, according to the original rule, was the one to be used. Automobile boats are to be classified by themselves, all under a length of fifty feet to be in one class, those over that to have a separate class for each additional ten feet. All such boats are to be fitted with a reversing gear, and it must be possible to drive them astern at a speed of at least four miles an hour.

The rule for classification was obviously chosen with the idea that it would in all cases separate the automobile boats from the slower boats built on conventional lines. With the newer types of high-powered boats, the maximum transverse section does not necessarily fall amidships. Consequently, the area of the section measured in the old way at 55 per cent. from the forward end of the load water line might be less than the maximum. In such case, as the area so found is used as a divisor in the formula for rating, the rating would be too high and the time allowance too small.

JOSEPH TRACY SELECTED.

Will Drive a Peerless Car in the International Cup Race.

Announcement has been made that Joseph Tracy, well known as a driver of fast machines on the local tracks last season, will be the pilot for the entry of the Peerless Motor Car Co. in the international cup race to be held in Germany next June.

Tracy, who drove the old cup racer a mile over the Ormond Beach in 45 2-5 seconds, the fastest mile, barring Oldfield's, ever made by an American machine, will handle a car in the Automobile Club's elimination trials, and, if selected, will start for Europe early enough to familiarize himself with the course.

The Peerless Motor Car Co. is building three machines for the elimination trials and beside Joseph Tracy, Louis Mooers

again will try his hand at speed work. The pair will give the machines a severe test and the car which works the best will be sent to Europe, in charge of Tracy.

Tracy's work last season showed him to be a man of great persistency, of considerable skill and of unquestioned nerve. He scored well at the Empire City track, while his work at Ormond Beach with a car that was not at its best, was of excellent quality. He is thirty years old and has been driving automobiles for the past five years. He was first with J. Insley Blair of New York, then with Georges Richard-Brasier interests and finally accepted an offer from the Peerless Motor Car Company.

AUTO EXPRESS SERVICE.

New Motor Collection and Delivery System Started in Detroit.

Special Correspondence.

DETROIT, March 14.—The Auto Express Company began operations last week in this city, delivering merchandise for wholesale and retail business establishments on contract. The plan of operation is similar to that of the Boston Auto Express Company. The local business will not be on a full running basis for ten days or perhaps more.

The Auto Express Company was organized by E. D. Trowbridge, who recently resigned his position as general manager of the Michigan Telephone Co., and the new company will incorporate with a capital of \$20,000, which will be increased as the growth of business requires. It will, in addition to the work mentioned, also handle transient parcel deliveries and, in connection with the larger business, operate a messenger service to take care of immediate deliveries and city service messenger calls.

The equipment will consist in the beginning of ten big automobile delivery wagons, which are now being built by the Olds Motor Works. Three of these wagons are already in use. The headquarters of the Auto Express Company are at 22 Witherell Street, corner of Madison Avenue.

General Manager Trowbridge, when seen by a representative of THE AUTOMOBILE, said that he thought Detroit offered a specially well developed field for the operation of such a company if well managed and that since motor wagons are to be used exclusively in the delivery work, prompt and efficient service is assured from the start. The company will have collection and delivery routes, making three regular collections and three deliveries each day. He believes the work can be done more quickly and economically under this system than by horse-drawn vehicles.

NEWTON AUTOMOBILE CLUB FORMED.

The Newton Automobile Club was organized last week at the clubhouse of the

Newton Club, of Newton, Mass. The following officers were chosen: President, William M. Ferris; vice-president, Charles J. Brown; secretary, Ralph C. Emery; treasurer, Lewis R. Speare; directors, Dr. E. R. Utley, E. D. Van Tassel, J. A. Potter, C. G. Haskell, A. M. Beers, Dana Estes, Jr., and N. F. Stanley.

TOUR OF THE WORLD.

Itinerary of Proposed Glidden Journey to Begin in October.

Chas. J. Glidden of Boston, Mass., who holds the long distance automobile record, having driven 13,795 miles in fifteen European countries and across the Arctic Circle, has completed his itinerary for a proposed tour of the world and computes the distance at 20,000 miles by automobile. If war conditions will permit, he will start eastward with Mrs. Glidden and his engineer, Chas. Thomas of London, about October 1 of this year and 365 days will be required to make the drive.

On account of the climate, it is probable that the journey will be made in two sections, the first terminating at Athens at the end of this year; the party returning to Boston and starting from Athens in October, 1905. This will bring them in the warm equatorial climates at the proper season of the year. Mr. Glidden hopes to drive several miles in a country that will permit the crossing of the Equator in longitude about 100 degrees east. He will use the 24-horsepower Napier car that has the Arctic Circle record and already about 10,000 miles of European driving. Through an extensive correspondence, arrangements have been made for gasoline distribution and supplies at all points and for escorts where necessary for safety; also for 18,000 miles of steamship transportation for passengers and automobile.

The entire route has been carefully outlined on maps of the countries to be visited. The miles are distributed about as follows, the countries being mentioned in order of travel: England, 261; France, 812; Spain, 800; Portugal, 500; Algeria, 1,000; Tunis, 460; Sicily, 364; Italy, 970; Hungary, 588; Turkey, 295; Greece, 500; Egypt, 450; Palestine, 300; India, 5,000; Ceylon, 500; East Indies, 300; China, 100; Japan, 2,500; Hawaii, 300; United States, 4,000;—total, 20,000 miles.

The roads of China are narrow and totally unfit for motoring outside of Hong Kong, and the restrictions imposed by the government make a drive of any extent impossible. Of unusual interest will be the drive in Spain, Portugal, Algeria far into the desert of Sahara, in Palestine and India skirting the Himalayas; in Ceylon, on the islands of the East Indies and in Japan. If time will permit and climatic conditions are favorable, when in the locality, the Philippines will be included in the schedule.



The H. J. Koehler Sporting Goods Co., of Newark, N. J., has recently received an order for a Ford machine from Franklin Murphy, Jr., the son of the Governor.

Goddu Bros., of Winchester, Mass., claim that they are the sole inventors and manufacturers of the Ideal mixing valve for gasoline engines and say they will prosecute all infringements or misrepresentations.

An ordinance was passed recently in Racine, Wis., requiring that automobiles of all descriptions, motorcycles excepted, shall be licensed and shall each carry a number, the figures of which are not less than three inches in height.

The Wolverine Motor Co., of Grand Rapids, Mich., which has been manufacturing motors for pleasure boats, will hereafter build them extensively for fishing boats. It is already covering the field well and many motors have been sold for the fish boats. The company is located in the center of a good fresh water fishing territory. Pleasure boat motors will still be put out by the company.

The first automobile to reach Dawson City, Alaska, was a regular stock Oldsmobile without special equipments. Ferdinand de Journal, of San Francisco, drove the little car over the rough trail. He had great difficulty in obtaining fuel, gasoline costing about \$10 a gallon, which, however, is not such an appalling figure when it is considered that it costs about \$15 a day to feed a horse on the same journey.

The Fawkes Rubber Co., of Denver, Colo., whose eastern office, in charge of Basil S. Courtney, has been located at 1679 Broadway, New York, has leased the entire building at that address and will, on April 1, make New York the home office. Mr. Courtney will have entire charge of the sales department. The Pennsylvania Rubber Co., which now occupies the store in the building, will move four doors south, to the corner of 52d Street.

The construction of an automobile by the engineering department of McGill University at Montreal, Canada, is under way, and students interested in this kind of work are being given an opportunity to profit by practical experience in finishing and assembling parts of the entire machine. The motor, which is a two-cylinder, four-cycle engine, 4 1-2 inch bore by 5-inch stroke, 12 indicated horsepower, will be set up in the Laboratory of Thermodynamics for exhaustive tests before being assembled on the frame.

After being more than three weeks on the road, the handsome Peerless touring car ordered by Harry C. Pierce of Syracuse two months ago, has been delivered. It is the largest car in that city, having a four-cylinder 30-horsepower engine and accommodating five persons comfortably.

C. A. Mezger, manufacturer of the Soot Proof spark plug, announces that he recently began proceedings against the importer of a French plug that was an infringement of Mr. Mezger's patents. The importer acknowledged the validity of the claims and has agreed to discontinue the sale of the infringing plug.

An effort is being made in Los Angeles, Cal., to have the time that automobiles are allowed to stand unoccupied by the curb extended from twenty minutes to one hour. With the existing time allowance, a business man would not even be able to leave his machine standing long enough to get his lunch without being subject to a fine.

H. L. F. Trebert, formerly president of the Trebert Gas Engine Co., of Rochester, N. Y., has recently severed his connection with this company and is perfecting a new motor that has many distinctive and original features. Mr. Trebert claims to have originated the idea of placing inlet and exhaust valves on opposite sides of the cylinder.

Alexander Winton intends to have the Bullet No. 2—his eight-cylinder Gordon Bennett racer—sent for straightaway records at the time of the international race trials, the chief record sought being the one mile, which Barney Oldfield believes he can reduce to 35 seconds. The machine will not be seen in many track races until after these attempts.

An ordinance was recently passed in Augusta, Ga., making it a misdemeanor, punishable by a fine, for any person to throw scraps of glass, tin, iron or other sharp substances in the city streets, and explicit instructions were given the police to rigidly enforce the ordinance and use every effort to abate the nuisance which has caused much trouble to owners of automobiles.

The appointment of H. W. Smith, of Syracuse as a member of the committee in charge of the A. A. A. run to the World's Fair at St. Louis next summer was pleasing to his many friends. He is an enthusiastic automobilist and a hard worker. As chairman of a club committee he carried the New York State Automobile Association to successful organization and he was the first president of it.

The Electric Storage Battery Co., manufacturer of the Exide battery, has recently closed a contract with the World's Fair Automobile Transit Co. for 100 sets of 44 cells each of the Exide battery. These batteries are to be used for the operation of the 'bus line, which is to be in service during the Fair.

Recent sales at the New York office of the White Sewing Machine Co. are reported as follows by Carl Page, who has charge of the office during the absence of Paul Deming, who is in Europe on his honeymoon: White touring cars sold to J. A. Childs, general manager of the N. Y., O. & W. R. R., Dr. Julian P. Thomas, Dr. Walter B. James, Arthur C. James and John Grant Stewart, all of New York, and W. H. Osborn of Newark.

The company that is operating an automobile stage line regularly between Lawton, Oklahoma, and the Wichita Mountains in that territory, has decided to increase its capital stock, the money to be used in the purchase of more equipment. The line is reported to have been a success from the start and owes much of its prosperity to the mining boom now on in the mountains. Miners are good customers of the stages. One of the mushroom mining towns on the road is Roosevelt.

Owing to the growth of its automobile business, the Studebaker Bros. Mfg. Co., of South Bend, Ind., has found it expedient to transfer its automobile interests covering the manufacture and sale of Studebaker gasoline and electric automobiles, to a new organization recently incorporated under the laws of Indiana. The name of the new corporation is Studebaker Automobile Company, and it has the following officers: Geo. M. Studebaker, president; Nelson J. Riley, vice-president; Clement Studebaker, Jr., treasurer; J. M. Studebaker, Jr., secretary and T. W. Goodridge, general manager.

Damages in the amount of \$100 has been recovered by John S. Craig, a bicyclist of Hartford, Conn., in a suit against Edward P. Hickmott for injuries sustained in a collision that occurred on the night of September 11, 1903. The testimony in the trial heard before Judge Case showed that Craig was coasting swiftly through Asylum Street when he was run into at Ann Street by Mr. Hickmott, who was driving from the opposite direction in Asylum Street in his automobile and turned into Ann. The plaintiff claimed the car was operated in a negligent manner, which defendant denied. Counsel for plaintiff asked time to file a motion for treble damages under the statute.

Melange of Metropolitan News.

Indications point to the promotion of a long-distance road race on Long Island this summer for the cup which W. K. Vanderbilt, Jr., has offered for an automobile road race of not less than 200 miles. H. B. Fullerton, who arranged the one-mile record ride of C. M. Murphy when that cyclist covered a mile behind a locomotive in 57 4-5 seconds, and who knows all the roads and most of the road controlling officials on Staten Island, is now working on the project.

In talking of the proposed two-mile automobile track at Bretton Woods, N. H., W. J. Morgan, who has been mentioned as manager of the new enterprise, declares if the present plans do not miscarry, the oval will be erected in time for a July meeting. Instead of the usual loam surface, the new track will be of wood, on the plan of coliseum bicycle tracks. By having the turns 100 feet wide and banked twenty feet, it is expected that power-driven machines can negotiate the incline at high speed.

Walter Christie, whose front-drive car of thirty horsepower traveled a mile at Ormond Beach in one minute, is constructing a new racing machine which will rate at 180 horsepower. Not a few well-informed automobile experts have expressed themselves as favoring the plan adopted by Mr. Christie of transmitting the power from the motor to the front wheels instead of to the rear wheels.

Peter Cooper Hewitt says his new racing car is a candidate for the international cup honors, and will be ready for inspection by the racing committee of the Automobile Club of America within a few weeks. Until that time Mr. Hewitt does not care to give any details of the car's construction. He says that its general appearance will not differ from machines now in use.

Fire Commissioner Hayes of New York has asked the board of estimate for money to buy a high-powered automobile for the use of Fire Chief Croker. The latter used a steam carriage for a long time and it proved invaluable for getting to fires quickly. Incidentally the fire department is preparing to experiment with an electric hosecart, the makers of which have offered to put one in service for three months.

Something new in closed carriages is owned by Charles G. Gates of New York, whose cars are handled by Fred Walsh, who scored so well in the Staten Island trials with Henry Fournier's record car. The new car is a 14-horsepower Renault of the landaulet type, with room for three

passengers inside and two on the front seat. It was purchased at the automobile show from Smith & Mabley. Mr. Gates's 10-horsepower Renault is now being fitted with a racing back. The Wall Street operator also drives a 40-horsepower Mercedes.

Anent the story which appeared in THE AUTOMOBILE regarding the excessive charge against W. K. Vanderbilt, Jr., for freight on his machines when they came from Florida because they weighed something like ten tons, comes a statement from J. P. Beckwith, general passenger agent of the Florida East Coast Railroad, to the effect that an error was made by the Seaboard Air Line which made the weight about ten times more than it should be. The figures were copied by the Florida East Coast Railroad, but the matter has been adjusted by a proper refund to the American sportsman.

The American Storage Company's garage on West 60th Street, is said to have the largest floor space of any station in the city. It shelters 128 cars, valued at an average of \$1,000 each. Two of the cars are worth \$32,000. This gives an idea of the value of power-driven machines owned by New Yorkers.

Among the recent arrivals at Smith & Mabley's is a Panhard fitted with a magneto and high tension coil, which requires no batteries. There are four distributors and only one contact-breaker. Recent buyers of Panhard machines from the Seventh Avenue salesroom include J. Ogden Armour of Chicago, and J. Austin of Philadelphia. Both gentlemen bought Panhards of twenty-four horsepower.

Barney Oldfield will make an attempt to lower Vanderbilt's mile record of 39 seconds during the elimination trials for the international cup race which the Automobile Club of America will hold over the Ormond-Daytona Beach in Florida during the latter part of April. He will use the eight-cylinder Winton Bullet No. 2, that broke its crankshaft during the recent tournament on the beach speedway.

The American Darracq Automobile Co. has received four 1904 Darracqs, which are the first new models from abroad. Two of them are double phaetons and two are phaeton "tulips," getting their name from the flower-like curve of their bodies. Two of the machines are finished in dark maroon and two have robin's-egg blue bodies, striped in red, with a running gear of the last named color. The tonneau is entered from the side, by the aid of an ingenious folding strip and swinging front seat.

The American Darracq Automobile Co. has received some anti-skidding and non-puncturable coverings for pneumatic tires. They are quickly attached and detached and consist of jackets studded with steel nails headed on the contact surface.

Hollander & Tangeman, of New York, announce that they have taken orders for twelve F. I. A. T. cars. The buyers include Charles A. Moore, of Manning, Maxwell & Moore; Dr. Lewis Morris, U. S. N.; Charles O. Gates, Jules J. Vatable and Miss M. C. Bishop, daughter of Mrs. Heber Bishop.

A stock company is being organized to lease the Clifton race track in New Jersey with a view of holding automobile races during the summer months.

E. B. Gallaher, importer of the Georges Richard-Brasier cars, says the present litigation among the stockholders of the New York Garage Co. does not affect him as an importer of the French machines, nor his membership in the Association of Licensed Automobile Manufacturers.

Since the automobile show, the American Storage Company of New York has delivered thirty-two of the 1904 model Franklin cars, and Manager Owen says that orders are being received every day, which will be filled as fast as machines can be secured from the factory.

A new boat of the cruising type is being built for Smith & Mabley by Robert Jacob of City Island. It is drawn from the plans of Messrs. Tanns, Lemoine and Crane, and will be fifty feet on the waterline and fifty-seven feet over all. The boat will be fitted with one of Smith & Mabley's engines of 19 horsepower, which will drive her faster than the average cruising speed.

A. J. Myers, 307 West 44th Street, New York, has been appointed American representative of the well-known French firm of L'Aster, manufacturer of the Aster motors. Mr. Myers will carry a full line of these engines from 2 1-4 to 60 horsepower for automobiles and launches. He is preparing an attractive exhibit of the firm's product for the St. Louis Exposition.

Emerson Brooks, manager of the automobile department of Quinby & Co., has moved his office from 511 Seventh Avenue to 1534 Broadway.

Including two new Mercedes cars to be received within a few days, Mr. and Mrs. Howard Gould, will have an equipment of seven machines stored with the Central Automobile Company.

MICHELIN TIRE DEPOT.

The largest stock of foreign automobile tires in America, aggregating \$20,000 in value, is carried in the stockroom of the new garage and accessories depot recently completed and now occupied by the Michelin Tire Company, United States agent for the famous French tires, at 132 to 142 West 27th Street, New York.

Although quarters for this agency were opened only last summer, by President Norris Mason, of the Michelin Tire Company on East 27th Street, they were quickly outgrown and months ago plans were drawn for a garage in a new fireproof building that would provide sufficient accommodations for the business.

The entire main floor, with an area of 10,000 square feet, is occupied by the tire company. There is a large salesroom and garage, well lighted from the front by big plate-glass windows and from the rear by skylights. It contains an automatic washing stand on which three cars can be cleaned at the same time, and there are roomy lockers.

An ingenious electrical contrivance permits the opening of the big doors for the entrance of any vehicle by simply touching any one of a dozen or more buttons conveniently located around the garage. There is no waiting outside for an attendant to come to the door and open it.

A well-equipped machine shop and a chauffeurs' room are on the same floor, while facing the street are the offices of the company and a reception-room tastefully furnished. There is plenty of competent help.

In addition to the large stock of all sizes of Michelin tires, the stockroom contains a line of various parts and accessories.

MORLOCK DIVIDEND DECLARED.

Special Correspondence.

BUFFALO, N. Y., March 14.—In the Bankruptcy Court in this city a dividend of 10 per cent. has been declared to the creditors of the bankrupt Morlock Automobile Manufacturing Company. Trustee W. B. Dickinson has on hand \$1,355. The trustee wants ten automobiles which are held by J. Fred Morlock, and Referee Hotchkiss has directed that a suit be brought against Morlock to recover the machines. He advised, however, that the two parties arrange to sell the machines, as this is the time they will bring the most money.

CLEVELAND ADVERTISERS' CLUB.

Charles B. Shanks, general sales and advertising manager of the Winton Motor Carriage Co., has been elected president of the newly formed Manufacturers' Advertising Club of Cleveland, and Charles W. Mears, Mr. Shank's assistant, has been elected a member of the club's executive committee. Mrs. F. O. McIntosh, who has long supervised the advertising of the

Standard Tool Co. and the Standard Welding Co., is the secretary. The club's purpose is to increase the efficiency of advertising. Only the representatives of manufacturers are eligible to membership, agents and brokers being barred. The club will hold monthly meetings, at each of which an address will be delivered by an advertising authority.

DAMAGE SUIT DISMISSED.

A petition by Harry L. Radford of Boston, to recover \$1,200 from the commonwealth of Massachusetts for repairs made upon his automobile, damaged by it coming in contact with a wooden horse left in the State highway at Cherry Valley, between Worcester and Leicester, was dismissed in the superior court recently.

Radford was on a night and day run from New York to Boston, when his machine ran into the wooden horse about 4 a. m., October 23, 1902. He claimed that there was no light to warn travelers, and that the commonwealth was liable under the State highway act for the amount he had to expend for repairing his machine, at least. The commonwealth denied any liability, and claimed that it had a man light a lantern, which was put upon the horse the night before, and that its duty ended when it furnished a proper light.

RECENT INCORPORATIONS.

Reichert Automobile Co., New Haven; capital, \$4,000. Ida E. Reichert, president; Charles O. Reichert, treasurer.

Welch Motor Car Co., Detroit; capital, \$50,000; to manufacture automobiles. Directors, Arthur Pack, George S. Hedges and A. R. Welch.

Automobile Touring and Sightseeing Co., New York City; capital, \$25,000; to deal in and rent automobiles. Incorporators, Jos. F. Padelford, Louis J. MacMahon and Stephen McPartland.

Keyes & Marshall Bros. Livery Co., St. Louis, Mo.; capital stock, \$300,000; to do a general livery and automobile business. Stockholders: S. P. Keyes, J. D. Marshall, W. H. Marshall, Archie A. Keyes and Robert E. Collins.

Lake Shore Auto Station, Chicago; capital \$5,000; to rent and repair automobiles. Incorporators, Arthur W. McGovney, W. R. T. Ewen, Johann W. Wage.

Genesee Auto Car Co., Rochester; capital, \$10,000; to manufacture and sell gasoline carriages. Directors, Edward A. Keenan, George W. Mason and Henry H. Kingston, Jr.

Blood Automobile Machinery Co., Detroit; capital, \$7,000.

Buffalo Motor Car Co., Buffalo; capital, \$25,000. Directors, Frank I. Alliger, mayor of Tonawanda; Fred Wende and William Lutz.

TWENTY-SEVEN members were enrolled at the organization meeting of the Chicago Motorcycle Club, which was permanently organized during the Chicago show.

BOSTON TRADE NOTES.

Charles Thomas, head demonstrator for the Napier Automobile Co., of London, Eng., arrived here last week in charge of the Napier 1904 cars for the Boston show. Mr. Thomas will remain in this country several months in the employ of the Napier Company of United States.

Alfred R. Jewett has engaged in the sale of new and second-hand automobiles in Abington, Mass.

The H. H. Buffum Co., of Abington, Mass., has just opened a branch office and salesroom at 733 Boylston St., Boston. Buffum touring cars and motor boats will be handled exclusively. Mr. Frederic E. Parker is in charge of the new establishment.

The first employment agency exclusively for automobile operators and repairmen in the United States was opened recently in Boston under the title of the Massachusetts Automobile Employment Agency, with offices at 100 Boylston St. J. H. Johnson is manager.

Dowling & Maguire have just opened their new offices and salesroom on Boylston St. near the Massachusetts Automobile Club. Pierce cars will be handled exclusively.

A. J. Coburn, formerly located at 147 Columbus Ave., has opened offices in the Park Square automobile station. Mr. Coburn has the agency of the Cameron cars for Boston and vicinity.

The Studebaker Bros. Mfg. Co. has opened a Boston branch office and salesroom at 43 Columbus Ave. A. F. Neale is sales manager.

The Commission Automobile Co., now located in the Park Square automobile station, will remove April 1 to larger quarters in the building adjoining, formerly occupied by the Boston Auto Express Co.

The American Automobile & Power Co., manufacturer of the American Populaire gasoline cars, has opened general offices at 5 Park Square. Chester I. Campbell is general sales manager.

A. Shuman & Co. are devoting one entire floor of their large clothing department to the display of automobile clothing and adjuncts for men and women. A full line of Swedish leather clothing is carried in conjunction with domestic waterproof woolens.

DETROIT auto boat men are making every effort to aid Congressman Alfred Lucking, of their city, who is leading the fight against the obnoxious Grosvenor bill at Washington. The Detroit Yacht Club is the first fresh water organization to take up the whip officially, and at the last meeting of the board of directors a letter was addressed to Representative Lucking, asking that Detroit manufacturing interests be protected as well as its Corinthian power boat spirit. A death blow at the trade interests, it was pointed out, would have a killing effect on pleasure power boating.

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